A Lecture
ON
SOME TYPICAL FORMS OF CURVATURE OF THE SPINE.

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GENTLEMEN,—The pathology of spinal curvature has not yet been thoroughly worked out. We know of caries, of cancer, of osteo-arthritis, of rickets, of lateral curvature, and of some few more rare conditions, and we talk of spinal weakness, which some of us call "neurotic spinal trouble," but further than this our text-books hardly carry us. Our museums contain a few cases of obvious osteo-porosis in which the spinal column has given way posteriorly or laterally, but instances of severe ordinary lateral curvature are so extremely frequent that skeletons showing very severe deformity are quite a common feature of our pathological collections. I would ask, Is it possible that the spine can give way either posteriorly or laterally, irrespective of caries, to the extent of the many severe cases of deformity which exist without there being some undue softness of the bones or unnatural laxity of the ligaments? It is the exact pathology of these cases which, I have suggested, is not sufficiently known.

All the above-mentioned conditions may commence with symptoms of ordinary weakness alone, and therefore it is of importance to deal cautiously with so-called "spinal weakness." Many a case of incipient spinal caries has been stimulated into severe activity by the "exercise treatment," whereas the plan which I adopted in the following cases would have been more suitable whether the case had been caries or debility alone. It is well known that the spine may give way laterally or posteriorly from weakness. Such weakness is often attributed to want of power in the muscles alone, but this view of the cause of the trouble does not coincide with certain facts which I have observed.

During the last eighteen years I have measured the backs of many hundreds of patients, and have found that when the body has been well developed for the age and the individual has been robust the length of the back from the level of the shoulders to the level of the chair in sitting has been equal to a measurement taken from the spine between the scapulæ round one shoulder back to the spine again. In a very large majority of the patients suffering from weak and crooked spines, the length of the back has been in excess of the shoulder measurement. The shoulders (which will generally be sloping downwards and forwards) should be brought back to a normal position at the time of measurement. The excessive length of back in proportion of the robustness of the body supports the view that weakness of the back is not so much due to muscular debility as it is to weakness of the spinal column itself—i.e., weakness of the ligaments accompanied not infrequently by undue softness of the bones. Debility from illness, from insufficient nourishing food, and rapid growth have seemed to be the most frequent causes of such want of stability in the spine. This view is supported by a number of facts, the most noticeable of which are recorded in the following history of a typical case.

A patient (say a girl about thirteen years of age) possesses a spine measuring one and a half inches in excess of the shoulder circumference (as above described); there is inability to sit up straight without assistance (that is the patient stoops perpetually), there is a complaint of almost constant or very frequent aching in the back, and when sitting there is to be seen a distinct lateral curve in one particular direction. By means of treatment, directed to preventing the spine from falling into bad positions without interfering with muscular action and improvement of the general health, the back gradually becomes straight and strong. The length of time during which the treatment will have to be carried out depends chiefly upon growth. Perhaps a year or eighteen months may elapse before the child will have "outgrown" her want of physical robustness. This result, however, will be attained sooner or later, and when it has happened treatment may be thrown aside absolutely. Measurement will then often show an adjustment of the dimensions, so that the shoulder measurement will be the same as the measurement of the spine.

There are, however, some individuals who grow up without efficient treatment having been adopted for this condition, and although they may have been able to follow their avocations in life fairly well, yet they are liable to suffer greatly from their weakness. They may develop scoliosis and become very deformed or kyphosis, and if the latter deformity is produced the symptoms may closely simulate those of caries, in fact it may be very difficult to decide whether any inflammatory disease be present or not, and those who have had most experience will probably have the greater difficulty in forming an immediate diagnosis. Fortunately it matters comparatively little at first what the exact nature of the weakness may be, for the treatment should be the same for a certain length of time in both cases, and during that time we shall have an opportunity of studying the affection sufficiently to arrive at a more definite diagnosis. Certain it is that we had better err upon the side of excessive caution than assume too readily the absence of inflammatory disease.

I am not referring to cases in which hysteria plays a prominent part, although it must not be forgotten that even hysterical patients may have real disease or real weakness, and when such a combination exists efficient treatment of the spine helps materially in overcoming the hysterical element. The following case is one in which there was undoubtedly great weakness and in which a suspicion of caries existed.

CASE 1.—A woman, aged twenty-two years, single, was sent to me by Dr. Buzzard on Nov. 8th, 1894. She had suffered for two years from pain in the back, chiefly in the lumbar region. This pain had been getting gradually worse until, a week before I saw her, she had been obliged to give up her work, which involved much standing about. She had not been without treatment directed to the improvement of her general health, and shortly before she came to me a surgeon had seen her and recognised the necessity of giving some support to her back. This he had attempted to do by means of a plastic felt jacket. The effect of this jacket was very unsatisfactory; the patient derived no benefit whatever from wearing it, but on the contrary felt the pain much worse. At the time of her visit to me she seemed to be extremely ill, with no other apparent cause than the weak back. Although the jacket was brought up much higher in the back than is usual and therefore might be thought to give more complete support than the ordinary jacket yet its effects in this direction were attained as usual at the expense of pressure upon the chest, and as this patient suffered from a chronic cough and much dysphagia any pressure upon the thorax and consequent interference with the free action of the heart and lungs was very detrimental to her. Several alterations in the position of the felt casing were made, but with little or no relief to the patient's sufferings. She was then told that the only course open to her was to go home and lie up entirely for six months. She thereupon gave up her employment, but before going away she consulted Dr. Buzzard, as it was supposed that her troubles might be due to some nerve trouble. Dr. Buzzard considered that all her pain came from weakness of the back and sent her on to me. By means of support with the "Adaptable Metal Splint" described elsewhere[1] the pain was quickly relieved, and instead of lying up for six months, she went back to work at the end of three days and never felt any more pain worth noticing. She steadily improved in health and strength, becoming much more robust.

In writing subsequently to me (April, 1897) she expressed herself as follows: "As soon as you put on the instrument I felt relief, and in three days afterwards I went back to my work, and could walk about without much pain. [A week previous to this she had not been able to move without extreme pain in the back and in the left thigh and leg.] In a fortnight I felt quite comfortable in the instrument, and from that time my general health began to improve. Three weeks afterwards I lost the cough which I had had for over a year, and it has never returned. I am very well now and can take longer walks, and can do much more than I have ever been able to do in my life." The subsidence of

[1] Caries of the Spine, second edition. London: Smith, Elder and Co. 1897.

cough is a very frequent result of this treatment and is doubtless due to the forced expansion of the lungs brought about by the apparatus. The treatment of this patient involved a very moderate amount of attention. During the first three weeks I had to see her about eight times, and after that only occasionally when the apparatus required slight adjustment in accordance with the patient's improving physical condition. Moreover, after the third day she was able to continue her work without interruption. In November, 1896, two years after her first visit, her back was quite strong and she did not require any further support.

CASE 2.—The next case is that of a patient in whom the symptoms were very similar to the last, but in whom the evidence of caries was stronger. A single woman, aged twenty-two years, came to see me in March, 1897. She had begun to feel pain in her spine about three years previously. During 1896 she was getting worse, and for the six months before the above date the pain had been constant. For the last four months she had, under medical advice, been resting almost completely—that is, she had walked downstairs in the morning, lain down on a sofa, and walked upstairs in the evening. She had given up all her work. The pain was described as dull and aching, but very severe, and it was just as bad after a night's rest as at any other time; she could not get into a comfortable position. Her suffering had gradually affected her general health, she was weak, anæmic, and had a very poor appetite. She had to be assisted from a cab into my room, and in sitting down she assumed the attitude shown in Fig. 1 (copied from a photograph) and could not sit up any straighter.

FIG. 1.

Showing the usual position assumed by the patient in Case 2 before treatment (March, 1897).

There was a slight excess of knee-jerk. The spinous processes of the ninth, tenth, and eleventh dorsal vertebræ projected rather more than the others, and pain was particularly severe in the region of these vertebræ, proceeding downwards and forwards. There was also aching pain upon each side of the whole spine, from the neck to the sacrum. The application of the adaptable splint at once afforded relief, and six days later the pain had completely left her. On April 6th—that is, eleven days after putting on the instrument—she felt so much improved in every way that she could walk a mile with comfort, and only felt anything of the former pain if she happened to move suddenly in the night. Two medical men who had seen her previously had attributed her symptoms to caries. I thought it probable that either this view was correct or that there was some other inflammatory condition of the vertebræ or intervertebral cartilages. Fig. 2 shows the patient on May 3rd, 1897, with

FIG. 2.

Showing the same patient on May 3rd, 1897, wearing the adaptable metal splint.

the apparatus on, and Fig. 3 shows her sitting up without the support at the same date, and without inconvenience. I did not think it advisable to let her try to maintain this position

FIG. 3.

Showing the same patient on the same date after removal of the apparatus. She is sitting without any support.

for more than the few moments necessary for the photograph to be taken. Judging from other similar cases I should expect her to be quite well and strong in about a year from

the commencement of treatment, but it is probable that she will feel well and be able to do her work with the help of the apparatus some months earlier.

Subsequent to writing the above (June 12th) she expressed herself as feeling absolutely well, and in August she was doing some light work with perfect comfort. She came to see me on Sept. 17th. She had remained very well and only complained of feeling very tired after two hours' work at the desk. I examined her back again, and although the general contour of the spine was perfect yet the three vertebræ which at first had projected beyond the others were still seen slightly but clearly projecting, and upon movement of the body this part of the spine was rigid. I therefore came to the conclusion that it was a case of caries.

It is only during recent months that I have taken photographs of my cases, and therefore have selected this one and the following in preference to describing others of which I could record ultimately satisfactory results, but of which I have not photographic records. I have never met with any difficulty in giving up the use of the apparatus when the patients have become strong, although in some instances I have thought it advisable to supplement the treatment of local support by a short course of massage and sometimes a few gentle systematic exercises before advising the entire discarding of the apparatus.

There is rather a large class of cases in which the symptoms are somewhat similar to those recorded above, but in which there should be no suspicion of active caries, although the trouble may have originated in slight caries at some previous period of the patient's life. The following is a typical instance.

CASE 3.—A married woman, aged twenty-nine years, consulted me on Jan. 11th, 1897. She had been troubled with pain and a sense of weakness in her back since childhood, but there was no history of a definite cause. There was pain, chiefly between the shoulders and also in the lumbar region. This pain and a feeling of weakness had been gradually increasing and had lately become almost constant. The

FIG. 4.

Showing position of the spine in the patient in Case 3 when first seen on Jan. 11th, 1897.

general health suffered in consequence, severe headaches being a prominent symptom. If she attempted to walk it soon brought on pain and a feeling of weakness. She sometimes felt better for a night's rest, but not always. She had been married three years, but had had no children. Although the spine was obviously at fault inquiry was directed to the organs of the thorax and abdomen, but nothing more than functional disorder could be detected. The reflexes were normal as were also the various functions, although there was weakness of circulation and of digestion. Fig. 4 shows the position of the spine at the time of her first visit (Jan. 11th, 1897). She was not able to sit up any straighter, but upon pressure with the hands it was possible to move the spine in different directions, showing that there was no rigidity and therefore presumably no inflammatory mischief. She felt immediate relief from her pain upon the application of the splint, and the pain had entirely ceased in a week; the general health rapidly improved, and two months later (April, 1897) I was able to take the photograph represented in Fig. 5.

FIG. 5.

Showing marked improvement in the same patient in April, 1897. She is sitting up with perfect comfort.

This patient now requires very little surgical attention and will, I expect, be permanently cured when she has worn the instrument a few more months. She now only feels pain (in the lumbar region) when very tired. She has at my advice taken to cycling, which she can do with comfort. Her circulation and her digestion are now excellent and she is steadily gaining strength.

CASE 4.—Another somewhat similar case is that of a girl, aged twenty years, who had never been very strong, but was able to do a considerable amount of active manual work. She had for some years been liable to pain in the back and also to severe headaches, the origin of which was obscure. As regards the thoracic and abdominal viscera nothing but functional disorder was present, she being in much the same condition as Case 3, but neuralgia at the back of the head was very severe. Her ordinary posture in sitting was that shown in Fig. 6 from a photograph taken during her first visit to me (March 18th, 1897). She could sit up a very little straighter than this, but only with a great effort and for a moment at a time. The lower three dorsal vertebræ and all the lumbar vertebræ curved laterally to the left. Relief from the pain was felt immediately on application of the splint and quickly lessened; and I was able to straighten the spine rapidly, so that on April 3rd it had arrived at the position shown in Fig. 7, and on April 21st she stated that the headaches had practically ceased, having only occurred once during the previous few weeks, whereas before the treatment was commenced she suffered from headaches nearly every day, lasting all day, and this had been the case for years with a few intervals of about a month at a time. At this date

(April 21st) she also stated that she had never been so well as long as she could remember. Fig. 8 is from a photograph taken on May 3rd (six weeks and four days from her first visit) showing that she was able to sit up without a support.

FIG. 6.

Showing the usual position assumed by the patient in Case 4 when first seen on March 18th, 1897.

The lateral curvature was also much improved. I saw this patient again on Sept. 16th and found her apparently perfectly well, in almost robust health and spirits, and her back perfectly straight. She will wear the apparatus a few

FIG. 7.

Showing improved position of the spine while wearing the support in this patient on April 3rd, 1897.

months longer, feeling absolutely no inconvenience from its use. I can promise her that when she gives it up she will only feel the want of it for a few days.

Another class of cases which have given rise to considerable trouble and in which treatment by apparatus is most valuable is that of elderly patients afflicted with lateral curvature.

CASE 5.—I saw a married woman, aged sixty years, on April 16th, 1889, at the request of the late Sir Russell Reynolds. This patient had suffered from severe pain and aching in the back for some years, chiefly in the lumbar region. Her symptoms gave rise to much difference of opinion as to their cause, and she had recently been seen by an eminent surgeon who had diagnosed a bony growth in connexion with the left crest of the ilium, close to the spine. There was only slight lateral curvature in the spinous processes of the lumbar vertebræ to the left. This was clearly a case of lateral curvature in which the rotation of the vertebræ existed with very little deflection of the spinous processes, and the "bony tumour" was composed of the transverse processes and the bodies of the rotated vertebræ. These are rare cases in comparison with the ordinary forms of lateral curvature. One very remarkable instance—that of the late Dr. Gideon Mantell—was recorded by Mr. W. Adams, in which the spinous processes formed

FIG. 8.

Showing marked improvement in the patient of Case 4 after less than seven weeks' treatment.

an absolutely straight line while the bodies of the vertebræ were rotated into a severe curve. I have also recorded some similar cases. Various palliative remedies had been tried for this patient but had failed to relieve her, and the deformity was increasing. I applied an adaptable metal splint with a single bar and a specially made pad to support the rotated vertebræ. This afforded her relief and stopped the progress of the deformity, but owing to the great severity of the displacement of the vertebræ there was more difficulty than usual in attaining quite a comfortable position. The patient also was aging rapidly, and died on Dec. 31st, 1890, so that she only wore the instrument nine months. I am indebted to Lady Russell Reynolds, who knew this patient, for the information that after the last re-adjustment which I made on Sept. 26th, 1890, the patient had more ease and comfort.

The relief from pain in these cases greatly depends upon one's ability to support the ribs from contact with the crest of the ilium. The spine in the last recorded case was greatly rotated in the lower lumbar region, and I was only just beginning to succeed in relieving this contact at the date of that last visit. I give this case as one of the most difficult I have had to deal with, and it shows that even under such

FIG. 9.

Showing the depression of the chest and roundness of the back in the felt jacket.

FIG. 10.

Showing the effect rapidly produced by the adaptable metal splint

adverse circumstances a deformity can be stopped from increasing and relief given to the patient's suffering.

With regard to the plastic felt jackets which are so commonly used in the present day when a support is required, I would remark that they are not satisfactory in their mode of action; they press on the chest, but do little towards holding back the shoulders; they interfere with the use of the muscles, they interfere with the evaporation of perspiration, and they fail to give efficient support. The following figures show the ineffectiveness of the ordinary felt jacket in controlling the position of the spine and the immediate effect of applying the adaptable metal splint.

The metal splint has the following advantages: 1. It leaves room for action of the muscles. 2. It develops the chest and does not press upon it. 3. It prevents the spine from subsiding into bad positions. 4. It forms a fixed basis from which to apply pressure upon lateral curves. 5. It enables the surgeon to see the effect upon the spine while the apparatus is *in situ*. 6. It is made of steel, the lightest material for the purpose, which is so tempered that it can be bent into any form by the surgeon himself. 7. It is comparatively light and is so helpful to the patient that a weak child can do more with it on than without it. It may be accepted as an axiom that whatever position the spine is held in by means of the adaptable metal splint that position will in time become permanent.

NOTE ON THE WOUNDED IN THE NAVAL BATTLES BETWEEN JAPAN AND CHINA DURING 1894-95, WITH SOME CONSIDERATIONS OF SANITARY CONDITIONS PREVAILING DURING THE WAR.[1]

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IN the Japan-China war during 1894 and 1895 the naval battles at Phung-do and Yalu, the attacks upon Tangchow, Wei-hai-wei, and the Pescadores were the principal engagements; the bombardments of Hwa-yuan-kow, Talien Bay, Port Arthur, Yingching Bay, and Keelung, Takau, and Anping in Formosa are also reckoned as sea-fights of importance. The naval battle of Phung-do on July 25th, 1894, was fought between the *Yoshino*, *Naniwa*, and *Akitsushima*, forming the first flying squadron of Japan, on one side, and the *Tsi Yuen*, *Kwang-yi*, and *Tsao-kiang* of the Chinese fleet, on the other side, the *Yoshino* receiving two shells in her side and the *Naniwa* receiving one, also in her side; but no material damage was done, neither was any one killed or wounded. From other cause, however, three persons on board the *Yoshino* had their membrana tympani perforated, and three on the *Naniwa* were slightly injured by burns. Attacks upon Tangchow were made by the Japanese warships on three occasions; firstly by the *Yoshino*, *Naniwa*, and *Akitsushima* on Jan. 18th and 19th, 1895; secondly by the *Tenryu* and *Kaimon* of the Third Flying Squadron, on Jan. 26th; lastly, by the *Tenryu*, *Yamato*, and *Musashi* of the above squadron on Feb. 21st. The forts on Tangchow replied to our attacks with volleys from their heavier or lighter guns. Though the *Kaimon* received two shells in her side there was no actual damage to our squadron and no case of killed or injured. The attack upon the forts on the Pescadores occurred on March 23rd, 1895: the Japanese combined squadrons, composed of the *Matsushima*, *Itsukushima*, *Hashidate*, *Naniwa*, *Takachiho*, and *Akitsushima* leading the transports carrying a mixed detachment, subjected the Kon-peh-tai fort to a fierce bombardment. The Chinese garrison replying to this with volleys from their heavy guns, the engagement continued for five hours. But no shell struck our warships and the guns on the Fort were silenced after having been nearly destroyed. During this engagement the mixed detachment landed on Li-sei-kakû and marched to the interior. At dawn the next morning each war-ship ordered a landing

[1] A paper read before the Twelfth International Medical Congress held at Moscow Aug. 19th to 26th, 1897.

party to advance as a reinforcement to the army. On March 25th the whole of the islands surrendered to the Japanese. During the course of the fighting only one person on the *Naniwa* was wounded receiving a fracture of the lower jaw and a lacerated wound of the neck from the deliberate aim of the enemy. He was immediately treated by a surgeon belonging to the landing party and afterwards sent back to the naval hospital of the Port Admiralty at home, where he quite recovered, a deformity of the lower jaw being left. In regard to the above-mentioned battles there were no actual damages on our side as I have already narrated, I shall therefore only give the surgical statistics of deaths and injuries resulting from the Battle of Yalu, and the attack on Wei-hai-wei with a general review of sanitary conditions. When the "History of the Health of the Imperial Japanese Navy in Relation to the Japan-China War," which is now being compiled, is published we shall be able to see the details of the sanitary conditions during the war.

THE BATTLE OF YALU.

It was on Sept. 17th, 1894, that the Japanese combined squadrons, composed of the Principal Squadron, which comprised the *Matsushima*, *Itsukushima*, *Hashidate*, *Fuso*, *Chiyoda*, and *Hiyei*; the First Flying Squadron, which comprised the *Yoshino*, *Naniwa*, *Takachiho*, and *Akitsushima*, and the gunboat *Akagi* with the ex-merchant steamer, *Saikyomaru*, transformed into a cruiser for the time being, fought on the Yellow Sea with the Chinese fleet, consisting of the *Ting Yuen*, *Chen Yuen*, *King Yuen*, *Lai Yuen*, *Ching Yuen*, *Chih Yuen*, *Ping Yuen*, *Tsi Yuen*, *Yang Wei*, *Chao Yang*, *Kwang Chia*, *Kwang Ping*, and two torpedo boats. The great battle was commenced at 12.50 P.M. and closed at 5.30 P.M. Our warships received more than one hundred shells in various parts and the number of persons killed or injured amounted to 298. The tables which follow give the details for the number of persons killed or injured in this battle. The highest numbers of killed or injured were on board the following vessels: (1) the *Matsushima*, (2) *Hiyei*, (3) *Itsukushima*, and (4) *Akagi*, &c.; but if we consider the ratio of killed or injured we find the numerical order to be as follows—viz.: (1) the *Matsushima*, (2) *Akagi*, and (3) *Hiyei*, with the *Saikyomaru*, *Itsukushima*, *Akitsushima*, *Fuso*, *Hashidate*, *Yoshino*, *Takachiho*, *Naniwa*, &c. From the fact that the numbers of killed or injured on board the *Matsushima*, *Akagi*, and *Hiyei* were especially numerous it is easy to imagine what an important part these three warships played in the action. Comparing the number of killed or injured according to their rank, the most numerous are seamen, being 57·38 per cent.; next come petty officers and officers, with 16·44 per cent. and 10·07 per cent. respectively; the lowest are the civilians, with 2·35 per cent.; while the other non-combatants account for 6·38 per cent. in each class. As the number of persons in each rank differs much it is difficult to estimate the real ratio from the above percentages. The percentage-ratio of killed or injured to the number of persons engaged, however, shows little difference between the different ranks, except that the non-combatants indicate the maximum, while the stokers and blacksmiths represent the minimum. In all engagements on land the infantry had always more killed or injured than the artillery, engineers, and sanitary corps, because the former approach nearer to the enemy than the latter. In sea-fights, however, any person above the water line of a warship may be easily injured by the enemy's shells irrespectively of his work; thus seamen who are exposed on barbettes to the discharge of shells, or non-combatants working on the main deck—in fact, all those who are working above water line—are equally liable to be killed or wounded. As our ships were not perforated by any shell below the water line during this war those who were working below it were safe; the natural result is, therefore, that the number of persons killed or injured belonging to the engineering class, who were always working below the water level, is the smallest. On board the *Itsukushima* five persons of the engineering class were killed or injured at one time owing to the explosion of a 15-centimetre shell, which perforated a starboard coal bunker in midships 3 ft. above the water line and crushed a ladder in the boiler-room of the afterpart.

The number of killed or injured includes those who were injured by the vibration of air caused by the firing of their own guns—viz., five men on board the *Itsukushima*, one on the *Hashidate*, one on the *Yoshino*, two on the *Naniwa*, and one on the *Takachiho*. It is not proper to make calculations based on an inclusion of persons killed or injured in this way. Therefore, subtracting these cases from the number of killed or injured the following ratio is found—that is, the *Itsukushima*, 3·3 per shell; the *Hashidate*, 1·1 per shell; the *Yoshino*, 1·4 per shell; the *Naniwa*, 0·0 per shell; and the *Takachiho*, 0·4 per shell. The order arranged according to the magnitude of ratio of the number of killed or injured to the number of shell hits is as follows: the *Matsushima*, *Akitsushima*, *Itsukushima*, *Hiyei*, *Fuso*, *Yoshino*, *Hashidate*, *Akagi*, *Saikyomaru*, and *Takachiho*. On board the *Naniwa* and *Chiyoda* there was no case of killed or injured by the shells of the enemy. The order simply calculated according to the magnitude of the number of shell hits is *Akagi*, *Hiyei*, *Saikyomaru*, *Hashidate*, *Fuso*, *Naniwa*, *Matsushima*, *Itsukushima*, *Takachiho*, *Akitsushima*, *Chiyoda*, and *Yoshino*. But the number of killed or injured is not necessarily proportionate to that of shell hits. Of shell hits, some were from heavier and some from lighter guns; some burst and others did not burst; while others were only pieces of shells. Thus the degree of damage is different according to the kinds of shells or the result of bursting. When the shells burst the damage was always greatest, the *Matsushima* having 30 persons killed at one time and 70 persons injured (half of these owing to the explosion of gunpowder itself) by a 30·0 centimetre shell, the *Hiyei* 14 persons killed and 27 persons injured by a well-directed shell of the same kind, the *Itsukushima* 8 persons killed and 3 persons injured by a 21 centimetre shell, and the *Akitsushima* 5 persons killed and 9 injured by the same kind of shell. On board the *Itsukushima* 4 persons were killed and 6 persons injured by the bursting of even small shells of 50 millimetres. Though the *Saikyomaru* was hit with 30·5 centimetre shells on her side and the *Chiyoda* with 21 centimetre shells in the same part, yet little damage was done, because the shell only perforated the ships' sides without bursting. Quoting one more example: in the naval battle of Phung-do a 15 centimetre shell hit the *Yoshino's* deck-house and passed down to her engine-room rolling about there around the men, but it did not burst fortunately, so no one was killed or injured. Thus we may see how much the number of casualties depends on whether the shells burst or not. The reason why the number of exploded shells is not proportionate to the number of killed or injured is conditional upon circumstances; for example, if there was no one near the place where the shell burst there was no case of killed or injured, but when the opposite was the case the result was a great number of casualties. It must be remembered that, moreover, fragments of ships' planks, &c., or "indirect-shot" gave heavy damage to our ships. For example, the funnel of the *Fuso* having been perforated by a shell the fragments of it dispersed around and either killed or injured ten seamen. The bursting of the shell of the *Hiyei* either killed or injured forty-one seamen; of this number more than ten men were either killed or injured by the indirect shot.

TABLE I.—*The Seat of Injuries.**

Seat of injury.	Number of killed or injured.	Ratio of seat of injury according to number of killed or injured.
Greater part of the body	57	19·13
Various parts of the body	24	8·05
Head	66	21·15
Neck	7	2·35
Chest and back	19	6·38
Abdomen and lumbar region ...	25	8·39
Upper extremity	55	18·46
Lower extremity	45	15·10
Total and ratio	298	99·01

* As most persons injured had several wounds the above table classifies according to the severity of the wounds. But it is impossible to classify the complete destruction of the body and extensive burns as one particular part of the body. These fatal injuries are analysed in Table III.

Of the total number of 298 killed or injured the part of the body most liable to be wounded is shown in Table I. thus. The number of head wounds was the greatest, the ratio being 21·15 per cent. of the total number. Next in

order came the wounds of the greater part of the body, of the upper limbs, of the lower limbs, of the abdomen and lumbar region, of the various parts of the body, and of the chest and back, while the fewest injuries were in the neck. Leaving out the number of wounds of the greater part of the body and the various parts of the body from the total number, the number of wounds of the head stands first, followed in order by those in the extremities, the abdomen and lumbar region, the chest and back, the last and fewest being those of the neck. In a land-fight the number of wounds of the lower extremity is commonly greatest and that of the upper extremity and head next; then come the chest and back, abdomen and lumbar region, and the neck wounds are the fewest. Now, comparing the number of wounds received in a land-fight with those received in a sea-fight it is found that they are almost identical. The only marked difference between them is that in the former case the greatest number of wounds received are those of both extremities, the head wounds coming next, while in the latter case the head wounds are the most numerous, and those of both extremities come next. This difference is but natural, because in land-fights soldiers are injured only by shells and bullets (though there are some exceptions), but in sea-fights all materials around the combatants, as ship's planks and rigging, &c., being blown to pieces by the bursting of shells, increase the causes of injury.

TABLE II.—*Result of Various Injuries.*

Seat of injury.	Killed at once.		Died.		Recovered.*		Totals.
	No.	Per cent.	No.	Per cent.	No.	Per cent.	
Greater part of the body	34	59·65	21	36·84	2	3·51	57
Various parts of the body ...	—	—	—	—	24	100·00	24
Head	22	53·66	3	7·32	16	39·02	41
Face	—	—	—	—	25	100·00	25
Neck	3	42·86	1	14·29	3	42·86	7
Chest and back	6	33·33	1	5·56	11	61·11	18
Abdomen and lumbar region ...	16	64·00	3	12·00	6	24·00	25
Spinal column and spinal cord	—	—	—	—	1	100·00	1
Upper extremity	—	—	1†	1·82	54	98·18	55
Lower extremity	9	20·00	3	6·67	33	73·33	45
Totals	90	30·20	33	11·07	175	58·72	298

* Including invalided. † Died from erysipelas.

By Table II. it will be seen that the greatest number of immediate deaths, or deaths shortly supervening, occurred from injuries under the title of injuries to the greater part of the body. This is a natural result, because the destruction of the body by burns which extended over one-third of the body are included in this column. The sum total, viz., 57 cases in this column (with the exception of 2 cases of burns over one-third of the body), terminated in death. The numerical order of immediate death or death shortly supervening is as follows: of the head, the lumbar region and abdomen, the lower extremity, the chest and back, the neck, and the upper extremity. Under the headings of the various parts of the body, the face, spinal region and spinal cord, there were no deaths, but under the headings of chest and back, abdomen and lumbar region and lower limbs, the number of immediate deaths is comparatively great, because, unlike wounds perforated by rifles, the greater part of the body was crushed or destroyed or the viscera and the large blood-vessels were destroyed by the pieces of shell. As the wounds were so severe some died a few minutes after the injuries received, none surviving more than four days. The details will be found in Table III.

These deaths took place before admission to hospital. I will now say a few words about those who died after admission to hospital. 1. Of three persons who were burned over one-half of the body two died three days after admission and six days after receiving the injury, and the third nine days after admission and twelve days after the injury, the mode of death being by coma in each case. 2. One person whose skull was penetrated by a fragment of a shell above the right frontal eminence followed by symptoms of compression of the brain died from coma, notwithstanding trephining fifty-three days after admission to hospital and fifty-six days after the injury. 3. Of two persons who received a penetrating wound of the abdomen the ribs of the one were fractured by the fragment of a shell which passed through the left false rib and penetrated the thoracic and abdominal cavity crushing the abdominal viscera; when admitted to hospital peritonitis had already commenced, making his condition unfit to undergo laparotomy, and he died from exhaustion five days after admission and nine days after injury. The other one received a penetrating wound of the left umbilical region from a fragment of shell injuring the intestinal canal at several points; the intestinal contents passed out into the abdominal cavity causing peritonitis, and he died from exhaustion thirty-eight days after admission and forty-one days after injury. 4. One person had a compound fracture of the lumbar region from the fragments of the planks of the ship penetrating the sacro-iliac joints into the pelvic cavity and rupturing the bladder; he died from exhaustion thirteen days after admission and seventeen days after the injury. 5. One person, who had severe compound fracture of the right scapula and humerus, nearly recovered after admission, but unfortunately was attacked with erysipelas six months after and died within a fortnight after the complication, the whole course of illness lasting 179 days after admission and 181 days after injury. 6. One person had a compound fracture of the right thigh by a shell, destroying the thigh bone below the great trochanter, severing the soft tissues, and rendering it hopeless to attempt conservative treatment, so amputation at the upper part of the thigh was performed, but he died from exhaustion complicated with traumatic delirium twelve days after admission and fifteen days after injury.

All injuries, except the cases of gangrene resulting from injuries of blood-vessels in compound fractures and wounds of joints, were treated with antiseptic precautions and as a consequence no infectious diseases of wounds occurred except in one person, who died from erysipelas.

TABLE III.—*Analysis of the Injuries Resulting in Death.**

Nature of injury.	Killed at once.	Died.		—
		Before admission.	After admission.	
Complete destruction of the body ...	32	—	—	32
Burns of greater part of the body ...	2	18	3	23
Mutilation of head	11	—	—	11
Compound fracture of skull	3	2	—	5
Penetrating wound of skull	7	—	1	8
Perforated wound of skull	1	—	—	1
Lacerated wound of neck	1	—	—	1
Penetrating wound of neck	2	—	—	2
Perforated wound of neck	—	1	—	1
Penetrating wound of chest	—	1	—	1
Perforated wound of chest	4	—	—	4
Lacerated wound of chest	2	—	—	2
Penetrating wound of abdomen	1	—	2	3
Perforated wound of abdomen	4	—	—	4
Destruction of abdominal wall	3	—	—	3
Lacerated wound of abdomen	4	—	—	4
Perforated wound of lumbar region ...	3	—	—	3
Compound fracture of pelvis	1	—	1	2
Compound fracture of upper extremity	—	—	1	1
Compound fracture of lower extremity	4	1	1	6
Mutilation of lower extremity	5	1	—	6
Total	90	24	9	123

* Except two the whole number of complete destruction of the body belonged to the *Matsushima*. Though this number was returned by the surgeon on board we believe there may be included in it some who were thrown out into the sea by explosion of ammunition and lost their lives.

KILLED OR INJURED DURING THE ATTACK UPON WEI-HAI-WEI.

After Jan. 30th, 1895, our combined squadron and torpedo flotillas moved against Wei-hai-wei with a strong force. The enemy's forts, coöperating with their squadron in the port, defended themselves to the utmost; but they were no match for the furious attacks of our squadron or the bold attack of our torpedo flotillas, and the bombardment from the captured forts at last led to the surrender of the enemy on Feb. 12th. In this battle our war-ships received twenty-eight shells, and sixty-six persons were killed or injured. (Tables IV., V., and VI. show the details.) Forty-six shells which struck above ships were discharged from the forts of Jhih and Liukung Islands. While our landing party on the captured battery of Lau-cha-tsao at Wei-hai-wei was bombarding the enemy's warships which were anchored in the port the party received a 30·5 centimetre shell discharged from the *Ting Yuen* and the two shells discharged from the *Tsi Yuen*, by which seven men were either killed or injured. During the attack by our torpedo flotillas on Feb. 5th No. 9 boat received thirteen shells from the enemy, and as one of them struck the boiler of the boat eight persons were scalded. During the next day's attack No. 22 struck against a reef below the Lung-miao-tsai Fort on her way to the anchorage. At this critical moment two persons on the boat jumped into the sea, hoping to reach the shore by swimming, but the extreme cold prevented their bodily motion and they were drowned. Three of the others tried to reach the shore in a canvas boat, but on their way the boat was upset and one man died from the extreme cold; the other two, though suffering from severe frost-bite, reached the shore by swimming.

TABLE IV.—*The Seat of Injuries.*

Seat of injury.	Number of killed or injured.	Ratio of seat of injury according to number of killed or injured.
*Greater part of the body	12	18·2
†Various parts of the body... ...	3	4·5
Head	15	22·7
Neck	—	—
Chest and back	3	4·5
Abdomen and lumbar region ...	6	9·1
Upper extremity	8	12·1
Lower extremity	19	28·8
Total and ratio...	66	99·9

* Under this heading "Greater part of the body" six cases of scalds, two of frostbite, one of laceration of the trunk, and three by drowning are reckoned.

† Under this heading "Various parts of the body" a case of scald of the face, upper and lower extremities, and two cases of contused wound of the face, upper and lower extremities, are reckoned.

TABLE V.—*Result of Various Injuries.*

Seat of injury.	Killed at once.		Died.		Recovered.*		Totals.
	No.	Per cent	No.	Per cent.	No.	Per cent.	
Greater part of the body	8	66·67	3	25·00	1	8·33	12
Various parts of the body ...	—	—	—	—	3	100·00	3
Head	6	75·00	1	12·50	1	12·50	8
Face	—	—	—	—	7	100·00	7
Neck...	—	—	—	—	—	—	—
Chest and back	2	66·67	—	—	1	33·33	3
Abdomen and lumbar region...	4	66·67	1	16·67	1	16·67	6
Spinal column and spinal cord	—	—	—	—	—	—	—
Upper extremity	—	—	—	—	8	100·00	8
Lower extremity...	—	—	2	10·53	17	89·47	19
Totals	20	30·30	7	10·61	39	59·09	66

* Including invalided.

TABLE VI.—*Analysis of the Injuries resulting in Death.*

Name of injury.	Killed at once.	Died.		—
		Before admission.	After admission.	
Destruction of head	1	—	—	1
Compound fracture of skull	5	1	—	6
Complete laceration of trunk	1	—	—	1
Perforated wound of chest	2	—	—	2
Perforated wound of abdomen	1	1	—	2
Complete laceration of abdominal region	3	—	—	3
Mutilation of both thighs	—	1	—	1
Mutilation of legs	—	1	—	6
Scald of whole body	4	2	—	1
Death from extreme cold	—	1	—	1
Drowning	3	—	—	3
Totals	20	7	—	27

THE SANITARY CONDITIONS DURING THE WAR.

The sanitary improvements which we have been gradually effecting for many years have always borne good fruit in the decrease of patients statistically and the annual increase of body weight; but this was especially the case during the late war. From the beginning of the Imperial Japanese Navy up to 1883 the sanitary condition of the navy was in a very slow state; for example, the men-of-war sent to distant seas or those despatched to Corea during the outbreak of troubles in that country (1882) produced many patients, especially those suffering from kak'ke, an endemic disease in the east. Kak'ke was predominant from 1878 to 1883, there being 30, or 40 per cent., of cases of kak'ke among seamen, which produced the deaths of forty or fifty seamen every year. Had there been a collision with any other nation at that time it would have been very perilous for us to open war under such circumstances. Since 1882 a committee for preventive measures against kak'ke was appointed, and after thorough investigation it was decided that kak'ke originates from improper administration of food—that is, too large a quantity of carbohydrates, as rice, and too little of albuminoids, as meat; so since 1884, by diminishing the quantity of rice and increasing that of meat for the seamen's rations, an improvement in the scale of diet was put into practice. Since then, as we anticipated, the cases of kak'ke suddenly decreased, and the health of the seamen in general being promoted, not only kak'ke, but all other diseases of seamen were diminished. Thus kak'ke was nearly extirpated in 1886. At the same time that the improvement in the scale of diet was effected a rule was made that the body-weight of seamen should be taken in March and September every year, with a view to ascertaining the sanitary conditions of seamen as affected by the new scale of diet. Previously to the improvement of diet the average individual weight of body was 52·50 kilogrammes, but after the improvement the weight increased considerably year after year. Though the general health of our navy had made such excellent progress as a result of the improvement in the scale of diet, yet some fears were expressed with regard to the health of the navy at the commencement of the war, on account of our having had no experience of sanitary conditions during war-time. But trusting to our sound principles, already put into practice for many years, we maintained routine regulations as to diet with most successful results, as will be seen in the following table of patients (Table VII.). The number of killed or injured is excluded from the table, which shows the number of patients in the navy in general from July, 1894, to December, 1895. During this time the total number of cases of diseases was 7106, the average cases of disease per day being 12·94. Those patients who were employed under actual service are included in this number of cases, so that the number of patients who lost their duty entirely is less than the number above mentioned. The average percentage of days' sickness

per 100 of force was 3·71, being only an increase of 0·25 when compared with the average ratio 3·46 of the last five years. The total number of deaths during these eighteen months was 215, the percentage ratio to the total force being 1·06. If we subtract 35 cases of drowning (an unavoidable occurrence in seafaring life) and 3 of suicidal death from 215, the number of the real deaths from disease was only 177, being a loss of 0·87 per cent. If we compare the number of deaths with that of killed (150) the former is greater than the latter by only 27. As the number of deaths (177) includes seamen in general, without distinction between seamen on active service or seamen on duty at home stations, the number of deaths on active service is less than 177 in reality. A glance at the ancient and modern history of battles will show that the number of deaths have generally exceeded the number of killed; sometimes the former was many times greater than the latter. Though there is some difference between sea-fights and land-fights as regards sanitary matters, yet such a comparatively small number of deaths is a proof of the satisfactory health of our navy.

THE GENERAL SICK-LIST.

Of the principal diseases of the appended table (see Table VII.) the number of cases of venereal disease and its sequels is 37·69 per cent. of the total number of cases of disease. This may be regarded as an evil resulting from the war. The number of injuries (persons wounded exclusively) is 13·86 per cent. of the total number of cases of disease, and that of diseases of the digestive system is 10·09 per cent. These diseases were much more frequent during the summers of 1894 and 1895 than in the other seasons, and may be partly attributed to debility of gastric function in the summer. The number of cases of diseases of the respiratory system is 9·01 per cent. of the total number. These diseases were especially prevalent in the winter of 1894. The cause of it is attributable to the severe climate of the northern localities, such as Talien Bay, Port Arthur, and Wei-hai-wei, at which most of our ships were stationed. The reason of the diminution in the same diseases in the winter of 1895 is that many of our vessels returned home or cruised to warm southern climes, as Formosa. The number of diseases of the integumentary system is 8·91 of the total number. These diseases mostly occurred in the summer of 1894 and diminished gradually month after month. At the commencement of the war, when every preparation was in haste, our seamen could not take warm bathing or wash their clothes regularly even in hot climates. Sometimes when coolies were scarce they were obliged to coal their ships themselves—a fact which sufficiently accounts for the prevalence of diseases of the skin at this time. The total number of infectious diseases was 603—that is, 8·49 per cent. of the total number of all diseases.

One case of scarlet fever occurred on board the *Omimaru*, but the disease did not spread. Of the total number of 131 cases of typhoid fever, 55 cases (about one-fourth of the total number of the complement) occurred on board the *Yamato* during the expedition to Formosa. A few of the rest occurred on other ships abroad or at home stations, but the sickness did not spread. The character of the fever was somewhat malignant and 24 men (18·32 per cent. of the total number of cases of the disease) died from it. Of the total number of 95 cases of cholera, of which 48 cases occurred on vessels and the remaining 47 cases at shore stations, 52 or 54·74 per cent. of the total number of cholera cases died. The greater number of cases of cholera occurred on board the *Omimaru* (10), in the Naval Barracks of Yokosuka (10), at the Defensive Mine Station of Sasebo (10), in the Naval Barracks of Kure (9), on board the *Kaimon* (7), and *Matsushima* (6). A few cases of the disease occurred on other vessels or shore stations. During the operations at the Pescadores cholera broke out in some companies of the Imperial army, and it prevailed throughout the army in general. At this time landing parties from the navy were sent to reinforce the army; also our surgeons and medical attendants gave helping hands in the treatment of numerous patients in the army, and conducted the disinfection of soldiers, &c. Under such difficult and dangerous circumstances it is a matter for congratulation that only three persons of our navy were infected with cholera. It is, then, easy to infer how satisfactory were our preventive measures against infectious diseases. Of 83 cases of dysentery, 5 or 6·02 per cent. of the total number died. The disease occurred principally among the colliers in the Base station of "Longreach" in Corea (20), in the naval barracks of Kure (12), on board the *Fuso* (8), and on the *Matsushima* (5); a few

TABLE VII.—*Number of Men on the Sick-list in the Navy from July, 1894, to December, 1895 (War Time).*

Disease or injury.	1894. July.		Aug.		Sept.		Oct.		Nov.		Dec.		1895. Jan.		Feb.		March.		April.		May.		June.		July.		Aug.		Sept.		Oct.		Nov.		Dec.		Cases.	Died.
	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.	Cases.	Died.		
Respiratory system ...	34	1	34	—	33	—	31	—	41	—	60	1	43	3	32	—	48	5	38	4	36	1	42	—	33	—	41	1	86	1	28	—	19	1	18	1	640	21
Circulatory system ...	3	—	2	1	1	—	—	—	—	—	—	—	3	—	—	—	1	1	2	1	2	—	1	—	2	—	1	—	4	—	3	—	1	—	3	—	22	6
Absorbent system ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	—
Digestive system ...	40	1	44	1	43	4	28	1	29	—	24	1	45	2	26	1	27	1	34	—	41	—	17	—	106	1	60	2	66	2	27	—	21	1	18	3	717	15
Genito-urinary system...	6	1	8	1	4	—	12	—	8	—	4	—	8	1	3	—	16	—	10	—	12	—	7	—	13	—	9	—	15	—	13	—	6	—	3	—	166	2
Nervous system ...	8	1	4	1	37	1	3	—	7	—	1	—	1	1	1	—	1	—	1	—	5	—	15	1	7	—	28	—	14	—	19	—	24	—	32	—	166	13
Skin and cellular tissue...	65	—	70	—	34	—	42	—	34	—	10	—	46	—	41	—	32	1	33	—	32	—	18	—	27	—	28	—	10	—	5	—	3	—	2	—	633	1
Organs of locomotion ...	7	—	12	—	6	—	12	—	6	—	13	1	9	—	8	—	7	—	14	—	29	—	27	—	63	—	66	—	61	—	62	—	65	—	26	—	374	1
Infectious diseases...	22	—	27	—	49	2	27	1	15	—	12	—	9	—	7	—	18	—	25	—	29	1	1	—	6	—	17	—	22	—	6	—	7	—	15	—	603	84
Kak'ke	2	—	—	—	2	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	6	—	—	—	2	—	—	—	—	—	43	3
Poisoning	—	—	—	—	—	—	—	—	1	—	1	—	1	—	—	—	1	—	1	—	—	—	1	—	1	—	2	—	—	—	1	—	2	—	1	—	14	1
Alterations of blood ...	1	—	2	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	—	—	1	—	4	—	1	—	1	—	1	—	2	—	3	—	22	—
Tumours	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—
Injuries	1	—	1	—	1	—	2	—	2	—	1	—	2	—	1	—	4	—	10	—	13	—	44	—	43	—	34	—	39	—	42	—	33	—	32	—	965	55
Diseases of the ear	66	1	53	1	68	1	70	—	56	—	72	1	60	2	60	1	87	—	57	—	43	—	1	—	4	—	4	—	2	—	1	—	2	—	2	—	273	3
Diseases of the eye	7	—	12	—	12	—	2	—	1	—	1	—	3	—	3	—	3	—	2	—	11	—	6	—	9	—	10	—	12	—	15	—	9	—	15	—	267	2
Venereal diseases	22	—	27	—	49	2	27	1	15	—	12	—	9	—	7	—	18	—	25	—	29	1	27	—	63	—	66	—	61	—	62	—	65	—	26	—	2673	84
Suicide	2	—	4	—	2	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	6	—	1	—	1	—	1	—	—	—	1	—	43	3
Drowning	—	—	2	—	1	—	1	—	1	—	1	—	—	—	—	—	1	—	1	—	13	—	1	—	1	—	1	—	2	—	6	—	1	—	1	—	35	3
Totals	431	4	455	8	410	6	415	4	344	5	354	6	372	9	363	3	434	14	359	10	392	15	417	6	498	26	439	26	433	27	381	21	357	11	312	15	7106	215

cases of the disease occurred on other vessels or at some other stations. Of 167 cases of malarial fever, 8 or 4·79 per cent. of the total number died. The disease principally occurred on board the *Yamato* (23), *Yoshino* (21), *Akitsushima* (10), and *Yayeyama* (10) which were despatched to Formosa, and on the *Chokai* (13) which was sent to Peh Yang or the northern sea of China; a few cases of the disease occurred on board some other vessels. Seventeen cases of fever occurred in the stations of Sasebo, six in those of Kure, seven in those of Yokosuka, and three in the special service party on the captured territory at Liaotung peninsula. With regard to small-pox we were quite victorious, as there was no single case notwithstanding our forces have traversed Chinese or Corean territory where sporadic cases of small-pox are always to be found; this is undoubtedly due to our strict rule of revaccination for all seamen, &c., every five years. Of the 43 cases of kak'ke 3 died, the ratio of cases per 100 of force being 0·21. The forty-three cases of kak'ke occurred on board the following vessels, viz.: the *Takachiho* (12), *Matsushima* (3), *Atago* (3), *Omimaru* (2), *Akashimaru* (2), *Akitsushima* (1), *Kongo* (1), *Katsuragi* (1), *Yamato* (1), *Tenryu* (1), *Kaimon* (1), *Amagi* (1), *Maya* (1), *Shinagawamaru* (1), *Genzanmaru* (1), *Yedomaru* (1), and *Genkaimaru* (1). The others occurred at the following shore stations, viz.: the Naval Barracks at Kure (3), the Naval Barracks at Sasebo (2), the Gunnery training ship (1), the Naval Barracks of Yokosuka (1), the Naval Barracks of Port Arthur (1), and the Base station of Long-reach in Corea (1). As already mentioned, an improvement in the scale of diet was effected after 1884, and in consequence this disease had diminished year after year until it had been nearly extirpated in the navy. The disease, however, broke out afresh. Let us examine why this was. In April, 1894, the *Takachiho* was despatched to Hawaii, and as soon as she returned she was repaired with extraordinary speed. After her repairs were finished she immediately sailed for the expedition. As the seamen of the ship suffered from a comparatively poor supply of fresh food they ate too large a quantity of rice. Of the twelve patients of the *Takachiho* ten were stokers, whose hard work in the boiler-room at a high temperature in a hot climate caused them to drink water to excess, in consequence of which they disturbed their digestive organs. Under such circumstances it was that so many cases of the disease occurred on the ship. The three patients of the *Matsushima*, suffering from a poor supply of fresh food and eating too large a quantity of rice, overworked themselves in the hot climate of Formosa. The two patients of the *Omimaru* and the one of the *Akitsushima* did not eat too large a quantity of rice, but both suffered from a poor supply of fresh food and overwork in the hot climate of Formosa. The one patient of the Maya always disliked meat and was fond of liquors; as the one patient of the *Kaimon* had a great taste for sweet articles he celebrated his return home by eating sweets to excess and disturbed his digestive organs. The three patients of the *Atago*, one each of the *Kongo*, *Katsuragi*, *Amagi*, and the Base station were obliged to take preserved food for a long time during the expedition, and took a dislike for preserved meat and hard biscuits toward the end of the expedition. The two patients of the *Akashimaru* and the one each of the *Shinagawamaru*, *Genzanmaru*, *Yedomaru*, and *Genkaimaru*, with the two of *Sasebo* and one of Kure Barracks (the last three men were from the crews of transports who were enlisted after the occurrence of the disease), did not take regular food while on board the transports because these vessels are not war-ships and not under navy regulations. The other case from the Kure Barracks was a second-reserve man who had already suffered from the disease before the call. The one patient of the naval barracks of Port Arthur was attacked by kak'ke after the occurrence of rheumatism. One patient from each of the *Tenryu*, *Yamato*, and the Yokosuka Barracks disturbed their digestive organs by over-eating, and over-drinking after returning home after a long stay in camp. The cause of two cases of kak'ke—one in Kure Barracks and one on the *Yokosuka* gunnery training ship—is not certain. Summing up the above mentioned I conclude that the cases of kak'ke directly originated from want of proper food and indirectly from the impossibility of taking proper food which resulted from injury of the digestive organs from certain cause. Hence the principal cause of this disease is undoubtedly due to improper and bad food. To ascertain how the war affected the constitution of the forces the body weight of the force was calculated. Its result was that in 1894 the average individual body weight of the force amounted to 58·238 kilogrammes, but in 1895 it had increased to 58·463 kilogrammes. Comparing these weights with those already mentioned it is found that the body weight during war showed a greater increase than before. This, I take it, is a proof of the excellent health of our naval forces.

Tokio, Japan.

TWENTY-SIX CASES IN WHICH AN ABDOMINAL SECTION HAS BEEN PERFORMED A SECOND TIME.[1]

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IN this paper I include every case in my practice in which an abdominal section has been performed a second time,[2] with the exception of six cases already recorded.[3] I have selected these cases for publication together because their histories illustrate a considerable number of complications, accidents, and causes of death which may occur in abdominal surgery, and because very few of them are without special points of interest. The cases may be divided into three groups. In the first eight the second operation was performed on account of a return of disease after a period of good health. The second group consists of five cases in which the first operation was insufficient to effect a cure. In the remaining thirteen cases the second operation was required on account of some complication arising as an immediate or a remote consequence of the first.

GROUP I.

CASES 1, 2, and 3.—The first three cases were examples of the growth of an ovarian tumour in the second ovary after the removal of an ovarian tumour. In Case 1 the second ovary had completely separated from its normal connexions, probably by twisting, and was nourished by adhesions in its abnormal position. The patient is alive and well. In Cases 2 and 3 the patients very nearly died from obstruction of the bowel during convalescence. The former is alive still; the latter died from pneumonia at the age of sixty-five years, nearly five years after the second operation.

CASE 4.—In this case an ovarian cystic tumour had been removed by another surgeon three and a half years before I saw the patient. I diagnosed a second cystoma, but on opening the abdomen I found a very large collection of ascitic fluid, encysted by peritoneal adhesions. The left ovary and tube were absent. The right appendages were dotted over with a granular growth which might have been either tuberculous disease or papilloma. I removed the ovary and tube and the patient made a good recovery.

CASES 5 and 6.—In these cases it was supposed that both ovaries had been completely removed for neoplasms before the patients came under my care. In each case I was informed of this by the gentleman who had operated. Nevertheless, I performed in each case an operation in no way differing from an ovariotomy with deep enucleation of the growth except that the Fallopian tubes were absent. Both cases recovered. These two cases show a local recurrence of an ovarian growth. The condition is in marked contrast to the secondary development of malignant disease which took place in the following case.

CASE 7.—In this case I performed a fairly easy ovariotomy on June 6th, 1893. The patient made an uncomplicated recovery and continued in good health until October, 1895, when she began to suffer from an increasing difficulty in keeping the bowels open. I saw her on Jan. 26th, 1896, and she then had an almost complete intestinal obstruction with abdominal distension, pain, and vomiting. I recommended an exploration with the formation of a fistula to relieve the vomiting and the pain due to peristaltic efforts, if no more

[1] Abstract of a paper read before the Medical Society of London.

[2] The operation of paracentesis abdominis has not been considered an abdominal section, although it might be maintained that the abdominal cavity is opened thereby.

[3] Illustrations of Some Modes of Death from Ovariotomy: Transactions of the Royal Medical and Chirurgical Society, vol. lxxviii.; Two Cases of Rupture of Intestine caused by the Separation of Adhesions to Diseased Ovaries: THE LANCET, Sept. 26th, 1896; and Cases of Liver and Gall Duct Surgery: Transactions of the Medical Society of London vol. xviii.

effectual treatment should be possible. The peritoneum was found studded over with numerous cancerous nodules and I therefore opened a coil of gut and made an artificial anus. The operation was successful in relieving pain, but death from exhaustion took place a month later.

CASE 8.—The gentleman who performed the first operation in this case informed me that he had found an ovarian tumour so thin-walled and so deeply embedded in the broad ligament that he thought it wise to drain the tumour instead of removing it. When I opened the abdomen, nine years later, I found a multilocular very thin-walled cystoma of the right ovary and commencing disease of a similar nature on the left side. I had no difficulty in removing both completely. It is now two years since the operation, and the patient is stout and well, nothing abnormal being palpaple in the pelvis.

In the foregoing cases I performed both operations in only two instances, the first and seventh. Death was not caused by the operation in any of these cases, and six of the patients are alive and well.

GROUP II.

In the following five cases the first operations failed to effect a cure. In each instance I performed the second operation only, and there were two deaths.

CASE 9.—The left ovary was removed from the patient in May, 1890, for the relief of inflammation accompanied by constant aching pain. After about two months the pain returned in the remaining ovary. The patient became so ill that, after consultation with the gentleman who had performed the first operation and with others, I removed the second ovary in March, 1891. The patient suffered much for about a year after the operation. She then began to improve, and last spring she informed me that she only suffered from a bearing-down sensation of comparatively little consequence.

CASE 10.—This patient dated her illness from 1881, when she was much shaken and frightened by an accident. A few months later she began to suffer from profuse, frequent, and painful menstruation. In 1885 she sought advice at one of our metropolitan hospitals. Something was removed through the vagina, but no benefit resulted. Early in 1893 an abdominal section was performed by the obstetric physician to another London hospital. After this the patient could not get about at all. A profuse red discharge from the uterus continued for three or four weeks at a time, and it was considered necessary to plug the vagina on several occasions. The pain was so great that injections of morphia were required almost daily. After ten months a ligature escaped from the vagina and there were subsequently repeated discharges of matter and blood. The gentleman who had operated told me that he had removed the left ovary, which contained a small dermoid tumour, and also the right ovary, but he was not sure if he had removed the latter completely. I reopened the abdomen on March 22nd, 1894, and after separating many adhesions I removed the left Fallopian tube with a small nodule that was evidently the tied stump of the left ovary. Part of the right Fallopian tube also remained, and it was removed together with that part of the broad ligament to which the ovary should normally have been attached. Two small pedunculate fibroids—the largest about the size of a walnut—were then tied off and cut away, and I noted that there were numerous other small fibroids in the uterine wall. Convalescence gave no trouble. After the patient got up uterine discharges continued at intervals till August, but there was then no blood in these discharges. I saw the patient in June, 1895. She was then in the best of health, without any pain or discharge. Obviously the arrest of the functions of the uterus was essential to a cure in this case, and this had not been effected by the first operation.

CASE 11.—In this case the patient complained of a swelling in the abdomen and of having had much pain for six years. During that time she had attended a hospital for women and had been an in-patient twice. In April, 1895, an abdominal section had been performed, and since that time the patient's health had been much worse than before, the pain had been more severe, and the periods had been very irregular. On examining her I found extreme tenderness in the pelvis, which made it impossible to define the parts with certainty. The womb, however, seemed somewhat enlarged, and I detected two swellings—one the size of a Tangerine orange on the left side and a smaller one on the right, this last being much the more tender of the two. The woman was in a state of great exhaustion from constant suffering, and every examination caused excruciating pain, which only subsided after two or three days. Her pulse was never below 120, and the temperature varied between 97·4° and 99° F. On June 1st, 1896, about thirteen months after the first operation, I re-opened the abdomen and found that the fundus uteri was retroverted. I found three interlocked silk ligatures in a cavity between the right broad ligament and the sigmoid flexure. I carefully removed the walls of this cavity and also the left ovary and tube, which formed an inflamed mass the size of a Tangerine orange. The patient died on the third day, with a high temperature and a rapid, feeble pulse. At the necropsy there was no evidence of peritonitis, and there was no fluid in the peritoneal cavity except a few drachms of blood-stained serum. I attribute this death to the severity of the operation and to the exhausted and poisoned condition of the patient.

CASE 12.—In this case a fibroid tumour was cut down upon by the patient's medical attendant in 1891, but nothing was removed. Afterwards a cystic tumour was tapped on several occasions, and in May, 1893, a cyst was opened and drained. Other tumours developed in the abdomen, and in July, 1894, the gentleman who had operated brought the patient to me for advice and further treatment. The patient was then forty-seven years of age and had ceased to menstruate. When I had made a careful examination the patient and her friends were plainly told that an operation would involve unusual danger, but as the tumours were very large and partly cystic I advised that they should be removed, and the patient decided to have this done, with the full approval of the gentleman who had performed the first operation. Accordingly, on July 25th, 1894, I removed the part of the uterus above the cervix with two solid and two very large cystic fibromata. There were very strong and extensive adhesions caused by the first operations, and two of the tumours required very deep enucleation from the left broad ligament. The ovaries and Fallopian tubes were also removed. The adhesions on the right side were so tough that their separation required a very difficult and prolonged manipulation. After an operation lasting nearly three hours the patient was put to bed in very fair condition, but she died seventeen hours later with symptoms which indicated that a ureter or the bladder had been injured. I did not think the latter could have been wounded because in separating it from the enlarged uterus I had had a catheter passed as a guide until I thought I was working well behind the bladder. At the necropsy, however, an opening was found in the posterior wall of the bladder near its base. I can only offer a conjecture as to how and when the accident happened. I presume it must have been when I was enucleating the smaller solid tumour which was situated deeply in the cellular tissue to the left of the vagina. As I have said, I thought when I was enucleating this growth that I was working below the bladder, and I kept a keen look out for the ureter, which, however, I did not see. At this part the tissues were very vascular, and the catheter used to define the position of the bladder had also emptied it, so that I got no assistance from the sudden gush of urine that might otherwise have taken place. I think that probably the left ureter was pressed low down by the tumour in the deep part of the broad ligament, and that a portion of the bladder had been drawn down with it. The post-mortem report stated that the bladder was very large. This accident was most distressing, for the patient's chance of recovery would have been fairly good if it had not happened. I record the case because it is necessary to complete the series, and also because it shows how the ordinary anatomical relations may be distorted by pelvic growths.

CASE 13.—The last case in this group was a most unpromising one. The patient was forty-four years old and had had her ovaries removed by the obstetric physician to one of our metropolitan hospitals in May, 1893, for the purpose of arresting hæmorrhage caused by a uterine tumour. Her periods ceased for six months after the operation and then returned, blood being constantly lost in small quantity and very copiously for a few days about once a month. On two subsequent occasions the patient had some operation performed through the vagina, an anæsthetic being given. The second of these minor operations was performed in November, 1895, and there was no discharge after it, but the tumour began to grow rapidly and became very painful. The patient decided to seek advice at the Samaritan Free Hospital, where she was admitted under my care on July 6th. She had a tumour of the uterus rising to the level of the navel, with an irregular surface and

very tender. It expanded the cervix uteri down almost to the external os, but it was fairly movable from side to side at its upper part. Those of my colleagues who saw the case advised that the tumour should be removed, although it was obvious that the patient was very feeble. I agreed that an operation alone could give relief. Nevertheless, I should have hesitated about undertaking such an obviously dangerous course if the patient had not urged me to do so after I had clearly expressed to her my opinion that the result would be very doubtful. On July 16th I performed hysterectomy, fixing the cervix of the uterus, secured by a serre-nœud, between the lips of the wound. When this can be done I believe it gives the patient a far better chance of recovery than any of the methods by which the abdomen is at once closed. The patient gave no trouble from a surgical point of view during convalescence, although she was in a position of extreme danger for weeks on account of her debility and the state of her lungs. I saw her on Oct. 5th, 1896, when her wound was quite healed; she was free from pain and had put on much flesh. Microscopically the tumour was a round-celled sarcoma. In the spring of 1897 this patient was successfully operated on by another surgeon for acute obstruction of the intestine. I am informed that now (October, 1897) she is very ill and not expected to recover.

GROUP III.

In the remaining cases the second operation was performed on account of some complication resulting from the first operation or arising during convalescence. In this group I performed both operations in six cases. In the other seven I performed the second operation only. Five of the patients died. The first three cases in this group indicated three forms of bowel difficulty which may arise after an abdominal section.

CASE 14.—The patient when I first saw her was forty-four years of age, and had been under treatment for uterine tumours in America for eleven years. She had constant and increasing pain, which was more severe at her monthly periods. I was at first inclined to take the view which had probably been taken by others—namely, that an operation for the removal of the growths was unjustifiable when the patient might shortly hope for relief by passing through the change of life. After keeping her under observation for about six months, however, I came to the conclusion that she really did suffer sufficiently to justify surgical interference. On opening the abdomen, I found that there was in each iliac region a very hard oval tumour the size of an orange attached to the top of the uterus by a pedicle about one and a half inches long and as thick as an ordinary cedar pencil. These growths were almost devoid of blood-supply and had undergone a kind of calcareous degeneration, so that they were practically foreign bodies. They had created much inflammation and were attached by adhesions to everything they touched. Without doubt these adhesions were a chief cause of pain. In addition to the above there was a large, soft fibroid tumour tensely filling Douglas's pouch. I removed all the tumours and also the ovaries and Fallopian tubes and fixed the stump of the uterus outside the peritoneum in the usual way. Convalescence was complicated by the fact that every attempt to feed the patient by the mouth gave rise to pain, retention of flatus, and abdominal distension, these unpleasant conditions ceasing when nutriment was administered only by the rectum. This alternation of conditions was repeated over and over again, the pulse and temperature being only very slightly affected. The bowels were moved from time to time by enemata, but the administration of these also gave much pain, and laxatives always caused distension. Two months after the operation I ordered that feeding by the mouth should be persevered with for a few days. The result was that after four days the pain became very severe and culminated in a kind of fit. Under rectal feeding the patient returned to her usual condition; but after this attack she was able to take food more freely, and laxatives had more effect than before in moving the bowels. I believe that some adhesions gave way at this time. The patient left my immediate charge a fortnight later with instructions to be very careful in keeping the bowels open and to limit the diet if she became distended. I hoped that the partial obstruction which evidently existed would be overcome in time by the gradual stretching of adhesions. The patient continued to be much troubled by pain and distension. She could not take laxative medicine or use an enema without suffering severely, and the bowels would not act spontaneously. After an interval of twenty-two months I agreed to the patient's urgent request that I should re-open the abdomen and separate the adhesions which I believed to be the cause of her trouble. On Oct. 16th, 1895, I opened the abdomen and found that the centre of the transverse colon was fixed to the back of the abdominal incision nearer to the pubes than to the umbilicus, so that this portion of the gut had a V-shape, and the acute angle at the middle of the colon was at the time of operation occupied by a scybalous mass of fæces. The omentum was much adherent to the abdominal wall and also to the sigmoid flexure, which was thus fixed to the centre of the transverse colon. I separated the transverse colon from the omentum and put it in its proper place. The patient made a good recovery, and her bowel condition was much improved. She still complains of distension and pain in the right side, but Mr. Thorburn Steer, under whose observation she has been recently, tells me that the attacks of pain are certainly less troublesome as time goes on.

CASE 15.—The next case illustrates a remote and rare effect of a pelvic operation. The patient had a double ovariotomy performed in 1882. This was followed by troublesome constipation, which became a serious difficulty ten years later. She came under my care in May, 1893, when no treatment either by the rectum or by the mouth made the slightest impression on the bowels. This condition had developed very slowly. The finger in the rectum could not reach the seat of obstruction, but large masses of fæces were felt both through the rectum and through the vagina, and also by palpation of the abdomen. There was no rise of temperature. After consultation I opened the abdomen on June 2nd, 1893 and found the whole colon enormously distended, but I could not find the cause of obstruction. As there had been no fever, and the patient, although very weak, was not acutely ill, the small gut not being distended, I decided to sew the sigmoid flexure to the wound and to open it later. By 8 P.M. on the day of operation, however, the patient's condition was extremely serious, the pulse being 140 and the temperature 102° F. It was obvious that the bowel must be opened without further delay. This was done and a large quantity of fæces was removed, but death occurred about midnight. At the necropsy it was found that there had been no escape of fæces into the peritoneal cavity. At the lower end of the sigmoid flexure the canal of the gut was almost completely obstructed by a mass of cicatricial tissue which had ulcerated on the mucous surface. The lumen of the canal was reduced to the size of a cedar pencil and passed obliquely through the diseased tissues. It is easy to say now that in this case it would have been wiser to open and clear the bowel at the time of operation.

CASE 16.—This patient had a supra-vaginal hysterectomy performed in 1893, from which she made a good recovery. She continued well until March 22nd, 1896. On the evening of that day she ate a hearty supper, and on the following morning she was seized with severe pain in the abdomen. I was asked to see her on the 24th, when I found the pulse 72 and the temperature below 100° F. To the left of the middle line I could define a distended coil of intestine which I thought might be the sigmoid flexure. Further consultation was desired, and as a consequence operation was postponed. In the meantime opium and belladonna were given, food by the mouth was withheld, and the patient was nourished by nutrient enemata. Next morning the pulse was 108, the temperature was 103°, and the abdomen was somewhat distended. I opened the peritoneal cavity and found a coil of small gut strangulated and sloughing. It had been tightly constricted by a band of adhesion which was very strong although not thicker than a piece of No. 3 Chinese silk. I washed out the peritoneal cavity and made an artificial anus; but diffuse septic peritonitis already existed, and the patient died about 10 o'clock in the evening of the day of operation. Surgical treatment cannot be employed too soon for the condition which existed here, but it is not always easy to decide beforehand when to operate. Cases of obstruction by band if promptly treated should give as good results as the operation for strangulated hernia. Unfortunately, the diagnosis is more difficult and the initial treatment is too often a purgative.

In the next two cases, Nos. 17 and 18, the second operation was required on account of a hernia in the scar of the first.

CASE 19.—Though the peritoneum was not opened this case is included in the series because the kidney is an

abdominal organ. The patient had lost a great deal of pus from the right kidney for five years before I saw her. I drained the organ, giving great relief, but four weeks later an obstruction in the left ureter necessitated a left nephrotomy. The patient died three days after the second operation.

CASE 20.—In this case an unusually adherent dermoid ovarian tumour was removed on June 11th, 1896, and the patient's condition gave no trouble or anxiety for a fortnight. On the sixteenth day she was allowed to get up and lie on a sofa, and she then complained that her belt hurt her. Two days later there was a rise of temperature. The patient was confined to bed again and I discovered a decided tenderness in the left kidney which was enlarged. I then obtained a history that for eighteen months the urine had from time to time been thick when passed. The specimen which I had examined before operation became very slightly hazy on boiling. The urine passed during the first fortnight of convalescence was abundant, acid, and clear, but I did not examine it for albumin. On July 3rd, the twenty-second day after the operation, some urine was passed containing about half its bulk of pus. After this the patient's condition improved somewhat and the urine again became clear and contained only a trace of albumin. There was no trouble from the bowels. The lower abdomen was soft and flaccid, and no hardness or tenderness was detected in the pelvis by bimanual examination. The left kidney remained very tender. On July 6th, the twenty-sixth day after the operation, the patient's condition was again worse; the left kidney was very hard and could not be touched without causing severe pain; the temperature rose to 105°, and the pulse, which had kept steady, about 84 to the minute, rose above 100. The patient became drowsy and indifferent, and I expressed the opinion that she would die if an opening were not made into the left kidney. On July 7th, in consultation with Sir Douglas Powell and Mr. Coker, of Uxbridge-road, it was agreed that the kidney should be opened, and this was done immediately. The kidney was not less than nine inches long, and broad in proportion. On tapping it with a trocar and cannula I drew off some red fluid but no pus. I therefore made an incision into the pelvis, but still got no pus. On inserting my finger I found that the calices were much enlarged, and I divided several septa, pushing my finger into the kidney in all directions, but gaining no further information as to the cause of mischief. The parts outside the kidney were quite normal. I inserted a drainage-tube and closed the wound. The patient was very feeble for a couple of days, and the temperature remained high, but after July 9th the course of convalescence was one of steady improvement. Later it was discovered that these attacks yielded promptly to purgation, and Mr. Coker suggested that free purgation might have obviated the necessity for the second operation. This is just possible, although I hardly think it likely. It did not occur to any of us to treat the case in this way at the time of serious danger, and the bowels were then being frequently moved without difficulty. It should further be considered that although I discovered nothing but a much dilated kidney at my second operation I must certainly have altered the relations of its calices to each other by my manipulations, and that in this way I may have broken down some obstruction to the exit of urine. I am inclined to think that this patient had suffered from pressure of the tumour on her ureters, especially the left, for many months before operation, that the kidney was distended occasionally, and that when she got up after lying on her back for a fortnight the left kidney was tilted over and induced a valve-like obstruction, which was closed by the pressure of the fluid within the kidney, and relief was not obtained till the kidney was opened. At the second operation I probably removed some valve-like obstruction such as is described by Fanger in the Annals of Surgery for June, 1896.[4] In July, 1897, this patient's health was thoroughly re-established.

In the following six cases an immediate operation was deemed necessary during convalescence from various operations. In two cases I performed both operations, and the results were fatal. In the last four cases I performed the second operation only and all recovered.

CASE 21.—The patient was a woman, aged thirty-five years, in whom extreme anæmia had been induced by profuse hæmorrhages caused by the presence of a fibroid uterine tumour. The patient was very feeble, but on the ninth day after hysterectomy the bowels had acted freely, the sloughing pedicle seemed to be separating nicely, the patient enjoyed her food, and I thought all would be well with her. On this day I made a note that the wound above the pedicle was free from all signs of irritation, and I removed all the sutures except those next the sloughing pedicle. The following night the patient was restless and uncomfortable. On the twelfth day after the operation I found that about an inch of the upper part of the incision had yielded, exposing the omentum. There was no sign of adhesion or other inflammatory reaction. I carefully cleaned and re-closed the opening by three sutures, but the patient gradually sank and died thirty-six hours later. At the necropsy there was no evidence of inflammation in the abdomen except some injection of peritoneum behind the seat of rupture of the wound. There was much congestion of the lungs, and all the tissues were very anæmic. I have seen a considerable number of cases of rupture of the abdominal wound due to a sudden strain, as from retching or coughing after the sutures have been removed, but I have never seen any other than this, in which there was no attempt at union of the exposed viscera to the edges of the incision, or any in which a fatal issue has resulted from the accident.

CASE 22.—This patient was a woman, aged forty years. There had been a uterine discharge for six years, which had constantly increased and had been very offensive for about two years. The uterus had been curetted by one of my colleagues in February, 1896, but a microscopic examination of the scrapings had not indicated that the disease was malignant. After a time, however, a clinical diagnosis of malignancy was made, and I was asked to remove the uterus. When I saw the patient her womb was slightly enlarged and was discharging great quantities of offensive matter, and as a consequence she was extremely anæmic. Removal of the uterus seemed possible, and the patient, although made fully aware of the serious nature of operative treatment, was most anxious to take the risk. My colleagues with whom I consulted thought an operation was justified as affording the only chance of relief. I therefore agreed to open the abdomen and to perform hysterectomy if the disease seemed confined to the womb. I performed this operation, but cancerous disease had almost destroyed the whole circumference of the uterine wall at the inner os. In the evening, although the patient was very feeble, her condition, both physically and mentally, was satisfactory. Next day she appeared to be doing well in many ways. She had passed ten ounces of urine in the night without the aid of a catheter, and had had some quiet sleep. Flatus had escaped when a rectal tube was passed, and there had been no vomiting. The temperature had risen to 102·2° F. in the axilla, but had come down to 99·6° by 10 A.M. The pulse, however, was extremely feeble, had risen to 140, and during the afternoon the heart failed still more. Early in the afternoon the patient suddenly collapsed, the temperature falling to 97° and the pulse becoming uncountable. When I saw her a little later she was evidently moribund but still sensible, and the condition seemed to me to simulate the effects of hæmorrhage so closely that, after I had ascertained that there was no escape of blood from the vagina, I determined to re-open the abdomen. The patient was so ill that no harm could result if there was no hæmorrhage, and it did not seem right that I should leave the question of the possibility of the existence of hæmorrhage undecided. The second operation was a very trivial one—merely the removal of a few sutures and the insertion of the finger—but it might have been a very important procedure, as in Case 24, and it brings the case within the title of this paper. The patient died an hour later. At the necropsy some coils of intestine were found to be adherent in the pelvis, and there was some turbid serum there also, but no blood. It was undoubtedly an error of judgment to yield to this patient's desire to be operated on; but I have always been guided in this question by the view that if there be any doubt as to the course to be adopted, that is, if I think there is any chance at all of benefit being derived from an operation, the patient should be allowed to decide for or against this course if he or she has been made clearly to understand the risks involved.

In the last four cases in my list I was fortunate in being able to perform successful operations in emergencies occurring in the practices of others.

CASE 23.—In this case the operations were the same as in Case 21—namely, a hysterectomy and a re-sewing of a

[4] The Operative Conservative Treatment of Sacculated Kidney. Annals of Surgery, June, 1896.

ruptured incision on the eleventh day. But in this case the patient was a strong woman; her wound gave way suddenly during the night, and when I examined it some hours later I found the protruding bowel firmly adherent to the divided edges of the incision. I cleaned the parts, returned the viscus, and sewed up the wound, which did not give any further trouble.

CASE 24.—I was asked to see a patient about two hours after a hysterectomy had been performed. She had suddenly become very pale and faint whilst in the act of retching. When I saw her she had every appearance of severe hæmorrhage. As the gentleman who had operated was not at hand I opened the abdomen, found that its cavity was full of blood, and that the right broad ligament had slipped completely from its ligatures. I re-secured the divided broad ligament and removed large quantities of blood, but I did not wash out the abdominal cavity because healthy blood-clot is not likely to do harm. A glass drainage tube was placed in the pouch of Douglas. It was doubtful for many hours, indeed for days, whether the patient would survive; but she gradually rallied and made a perfect, though slow, recovery. She was alive and well five years after the operation.

CASE 25.—In this case the inverted fundus of the uterus simulated a polypus, and had been removed by means of scissors, the nature of the operation being discovered by examination of the specimen. I saw the patient within an hour, and although her condition did not appear serious I thought it best to ensure against hæmorrhage by opening the abdomen and securing all the bleeding points. The second operation was begun within two hours of the first. Very little bleeding had taken place, but the disturbance of the parts set up free hæmorrhage, and there can be little doubt that the patient would have run a very serious risk when reaction set in if the hæmostatic power of nature had been trusted to. I tied the uterine arteries and broad ligaments and sewed together the divided uterine surfaces so as to close completely the opening from the vagina to the peritoneum. The patient made a perfect recovery.

CASE 26.—The accident that occurred in this case is, I believe, very rare. In dressing a patient whose pelvis was being drained I discovered on the fourth day after operation that the glass drainage-tube was fractured. I removed some sutures and fished up the lower half of the tube with a pair of forceps, the blades of which were guarded by rubber tubing. The two pieces of glass accurately completed the tube. Another tube was inserted for twenty-four hours. Beyond a sharp rise of temperature and pulse, which was recovered from next day, the accident caused no trouble and it did not delay convalescence.

The two great dangers in operating on the abdomen are the introduction of septic mischief during the operation and the occurrence of obstruction of the bowels or of pseudo ileus after the operation. In the foregoing cases I have succeeded in avoiding a fatal issue from these conditions, although in all the fatal cases septic mischief was primarily or secondarily an important cause of death. If a patient has to be operated on when the blood is already saturated with the products of septic mischief, as in Cases 16, 22, 11, 15, and 19, it is very difficult to avoid a fatal issue from septicæmia. But besides septicæmia and bowel complications there are many dangers and accidents which may occur in connexion with an abdominal section. The bowel conditions in Cases 14, 15, and 16 indicate remote dangers. The cancerous recurrence in Case 7 is a condition of great importance. Many accidents and mistakes are illustrated in my paper—injury to the bladder, Case 12; rupture of the abdominal wound, Cases 21 and 23; slipping of ligatures, Case 24; and mistaking of an inverted fundus for a polypus, Case 25. All these accidents have occurred before, and doubtless they will occur again; but I think that by bringing these together I may impress on operators the necessity for the greatest care during and after operations so that these and other dangers may be avoided.

Portman-street, W.

THE NEWPORT (MON.) WATER-SUPPLY.—A special meeting of the County Council was held on Sept. 28th to consider the present condition of the Wentworth Scheme for the water-supply of Newport. Many failures have from time to time occurred during the course of the work, and the chairman mentioned that the cost of the undertaking up to the present had been £100,408.

ETIOLOGY OF DIPHTHERIA, WITH SPECIAL REFERENCE TO TWO LOCALISED OUTBREAKS IN WANDSWORTH.

BY P. CALDWELL SMITH, M.A., M.D. GLASG., D.P.H. CAMB.,

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To all sanitarians as well as to medical men generally the increased prevalence of diphtheria in London is a subject of the greatest importance, and any addition, however small, to our knowledge of the etiology of this disease ought to be carefully studied for future guidance. It has been well said by Dr. Creighton in his admirable book on the History of Epidemics in Great Britain that "diphtheria is, perhaps, the most obscure and complex of all the infectious diseases in its causes and favouring conditions" and its continued prevalence in the metropolis has verified the above statement. The death-rate for diphtheria in London for the ten years 1871-80 was 120 per million living; in 1881-90 260 per million; while in the year 1893 this rate was 740; in 1894, 610; in 1895, 520; and in 1896, 602 per million. On the continent the death-rate is in some towns higher than the 1895 rate, it being in St. Petersburg 590 per million and in Berlin 540; while in Paris, Brussels, Amsterdam, Vienna, and Rome the rate was in the same year lower, in the latter city being only 80 per million. The above statistics tend to modify the view that insanitary conditions in dwelling houses are the cause of diphtheria, nor do they altogether agree with the statement of Sir R. Thorne Thorne that "sewage gas produces a morbid condition of the fauces rendering the patient more liable to the reception of the diphtheria poison." In the first place there is no doubt that in London the sanitary condition of the houses of the working classes is much better than it was in the decennium 1871-80, when the diphtheria mortality was 120 per million, as compared with 602 per million in 1896; and in the second place it is certain that the general sanitary arrangements in London are superior to those existing, not only in continental towns, but also in provincial towns in England and Scotland, which have a much lower diphtheria mortality. That it is even a predisposing cause would also seem to be negatived by the same statistics, so that for practical purposes we are confronted with the only other possible sources of infection—viz., infection by milk and infection from person to person. In this regard the remarks made by Bristowe in his "Theory and Practice of Medicine" may be quoted. He says that "there is reason to believe that the sanitary state of houses and localities and the condition of health of those who are exposed to its poison have much influence over its development." That was the general and accepted professional opinion twenty years ago, and even yet it is maintained that sanitary defects play an important part in its causation. Again, we know that the zymotic disease most intimately related to insanitary conditions is enteric fever, although even in this the specific organism must be present before infection can occur. Specifically polluted milk, water, and other articles of food are of course the most common causes of outbreaks of enteric fever, but, as has been stated by Dr. Theodore Thomson, "there is no doubt that the air of sewers and drains which has become specifically contaminated may, if allowed to find its way into dwellings through defective house connexions, cause from time to time enteric fever among the inhabitants of such dwellings."

If, then, the sanitary condition of the metropolis has been improved we would expect a gradual diminution in the typhoid fever death-rate, and this is what has taken place. The death-rate which was in the decennium 1871-80 240 per million fell to 190 per million in 1881-90, 140 per million in 1895, and 127 per million in 1896. These figures would lead one to believe that the sanitary condition of the houses in the metropolis is better now than it has ever been, and yet we see that the diphtheria mortality has increased from 120 to 602 per million in twenty years. Seeing, then, that insanitary conditions do not explain the great rise in diphtheria mortality some other method of infection must be looked for. Dr. Klein, after elaborate research and experiment, came to the conclusion

that cows can be infected with the diphtheria bacillus, and that the milk from these cows, if drunk, would produce diphtheria in the human being. It is not denied by sanitarians that milk, if infected from a human source with the diphtheria bacillus (for milk is a good medium for the growth of this bacillus), will produce the disease in persons drinking it; but whether this disease of cows is true diphtheria, or the bacillus described by Klein is similar to the Klebs-Löffler bacillus, has not, as far as I am aware, been definitely determined by other authorities. The only animal in which it is probable that diphtheria occurs is the domestic cat, and several cases have been traced to infection from this source. In the cat no membrane has ever been observed on the fauces or larynx, and the principal organs affected are the lungs and kidneys. No doubt the bacilli are exhaled and expelled in the mucous discharge, and in this way infection of human beings may take place. It is important to note in this connexion that it is now decided that the affection of fowls and pigeons in which a membranous growth occurs in the throat has no connexion with diphtheria in human beings. One certain mode of infection is by fomites, and although this will not explain all cases yet many have been recorded proving that the virus can be conveyed by persons or things. I know of one case, or rather one household, that was infected in which the poison was conveyed by a letter, as has often happened in the case of scarlet fever. Jacobi is of opinion that diphtheria is exquisitely contagious, that the germ clings to body-linen, bed-linen, clothes, and wood-work, and furniture of rooms in which a case had occurred.

Far more important than the probable causation by defective sanitary arrangements, specifically infected milk, domestic animals, and fomites is the causation and spread of the disease by personal infection, and it is this, I believe, that is the cause of the great increase in urban districts, and especially in London, in recent years. When one remembers the opportunities now existing for close personal contact among children in public and private schools, Sunday-schools, and private gatherings, as compared with what was the case even twenty years ago, it is not to be wondered at that such increase in diphtheria has taken place. The wonder is that it is not greater and that outbreaks such as recently occurred in the parish of Wandsworth have not been more numerous. In these outbreaks there is no doubt that in every case personal infection was the only cause in operation, although it was not in every case that such could be definitely proved. These outbreaks occurred in Wards 1 and 3 of the parish of Wandsworth, which had a population, principally working class, of 8670 and 11 817 respectively at the census of 1896. The wards are not adjacent to one another, and the outbreaks had, as far as could be ascertained, no connexion, although in both school infection was proved to have been the means of spread, and this most definitely in the outbreak in Ward 3. That school attendance is a prominent factor in the dissemination of diphtheria has long been known, and Sir R. Thorne Thorne, in his Milroy Lectures, has summarised all our knowledge of the subject. The conclusions arrived at by Sir R. Thorne Thorne are so generally known that it is unnecessary to recapitulate them, but there is one statement that, in view of the recent outbreaks in this district, is specially noteworthy. Sir R. Thorne Thorne states that "there are ample grounds for believing that the aggregation of children in elementary schools constitutes one of the conditions under which a form of disease of particular potency for spread and for death may be, so to speak, manufactured"; or, in other words, that in diphtheria there is a "progressive development of the property of infectiveness."

Before proceeding to discuss this as a cause of the virulence of the outbreaks it will be necessary to give some particulars with reference to them. In Ward 1 sporadic cases of diphtheria had occurred during 1896, 27 cases having been notified in that year at intervals of from fourteen to thirty days. Most of the cases were exceptionally mild. In January, 1897, however, 8 cases were notified with 3 deaths, 5 of the cases occurring in one family, 2 of these proving fatal. The causation of these 5 cases is important as showing a certain connexion between this outbreak and the one at Roehampton in the adjoining parish of Putney, which had occurred in the months of October and November, 1896. One of the children affected attended a school in Roehampton, at which all the children affected there were scholars, while the other four children attended the board school in Ward 1 of this parish. During the month of February 20 cases were notified with 7 deaths, and in March 17 with 2 deaths. The total number of cases in the ward was 45, 25 males and 20 females, with 12 deaths, a percentage of 26·5. These 45 cases occurred in twenty-three households; in four households 5 cases occurred in each; in six, 2 cases; and in thirteen, 1 case. In this ward there are two schools, one a board school and the other a national school, and of the twenty-three households affected the first cases occurred in thirteen households in children attending the national school, in nine the board school, and in two households the children infected had not been to any school. At first it was difficult to localise the school in which infection took place, as in a preliminary inquiry it was found that the cases occurred in both schools at varying intervals and among children who did not in school associate with one another. In the board school an examination of the cases showed that 10 attended the infant department, 3 the girls' and 2 the boys' departments. In the infant department the first three cases were members of the same family, and none of them had been in attendance at school for over seven days. The next two cases in that department did not occur for three weeks, the first on Jan. 21st and the second on Jan. 26th, but they did not attend the same class at school, although they, on entering and leaving school, passed through the same corridors. In this department all the children have a common playground. In the girls' department the cases occurred in separate classrooms. In the boys' department the first case was notified on Feb. 4th and the second on March 2nd. Attention was then directed to the national school, which was attended by a little over 100 scholars, and here, also, it was in the earlier cases difficult to say that school attendance was the sole cause of the outbreak. Five out of ten cases occurred up to Feb. 27th in which the infection was caught at school, two of these being members of the same family. These cases were notified, one on Feb. 16th, two on Feb. 18th, one on Feb. 20th, and one on Feb. 22nd. It was then thought that the outbreak had abated as far as this school was concerned, but on March 3rd three notifications were received, in one of which the first symptoms appeared on Feb. 22nd, in another on the 24th, and in the third on the 27th. On March 4th two notifications were received, in one of which the symptoms were said to have appeared on Feb. 20th, and in the second on the 27th. On March 5th four notifications were received, three of these being with respect to two children and one adult in a previously infected house, while the fourth case did not go to the day-school at all, but to the Sunday-school. All the first children infected had been in close contact in the above day-school or Sunday-school, and it was also ascertained that of the earlier cases several were in attendance on the Sunday-school, which was held partly in the same building as the day-school. The board school, although attended by over 800 scholars, was excluded as the cause of the disease, but the national school was closed on my instructions on March 5th for fourteen days, with the almost immediate effect of checking the outbreak. After that date six notifications were received, only one of these from a household not previously infected. This child had been to school on March 5th, the first symptoms appearing on the 7th. The other five were secondary cases. Out of the twenty-three households infected in only six were there any sanitary defects, and these were of a minor character. In four the connexion between the water-closet and the drains was defective.

In this outbreak it was at first difficult to arrive at a definite conclusion as to its causation, owing to delay in notification of the cases. In four of the cases no medical man was called in until some time had elapsed, and children from the infected households were meanwhile attending school. In one or two cases there was difficulty in diagnosis, as some of the attacks were mild and not well-marked, whereas others were of a severe and virulent type. The fact that the outbreak was checked by the closure of the school affords strong grounds for the belief that, at any rate in the later cases, the infection was received at school, and principally at Sunday-school, where the same control is not possible as far as overcrowding is concerned.

The outbreak in Ward 3 was of a very malignant character, and this was specially marked in the primary cases. This outbreak was limited to children attending one school, and the infection was traced to the attendance of a child suffering

from the disease at school on the afternoon of March 2nd. For some months previous to this no cases had occurred in this neighbourhood, and the school had always remained very free from diseases of an infectious nature. Inclusive of the above case, 31 notifications were received between March 6th and 18th, and 13 deaths resulted, a percentage of nearly 42. The first case which was the cause of the outbreak proved fatal, and of the 11 cases primarily infected by this 7 died. In 7 cases the first symptoms appeared on the evening of March 4th, and of those 6 died; in 4 on March 5th, with 1 death; and in 4 on March 6th, with 1 death. These 15 cases were all infected at school on March 2nd, 3rd, and 4th, and, as might have been anticipated, were the cause of other cases, not only in the same households, but in others. One monitor, a girl aged fourteen years, was infected on March 5th as on that date in school she nursed one of the previously infected cases who had turned ill, and the first symptoms appeared on March 8th. The type of disease in the early cases was more virulent, but the secondary and tertiary cases were of a milder type. In all, twenty-five households were infected, but owing to prompt diagnosis, notification, and isolation the outbreak did not last long. The disease was so virulent and the symptoms in the early stages were so definite that prompt isolation was at once carried out, with the result that in these households only two had secondary or tertiary cases. The school was closed on March 8th for twenty-one days, and after that date thirteen cases were notified, but of these four cases occurred in households previously infected. An analysis of the other nine cases showed that two in whom the first symptoms appeared on March 9th had been at school on the 5th and 8th, while the remaining seven were all ascertained to have come into direct contact with some of the previously notified cases. The last notification from this part of the district was received on March 22nd, the first symptoms having appeared on the 20th, and the outbreak subsided almost as rapidly as it had commenced. In nine of the houses where cases occurred sanitary defects were found after testing, but these, as in the outbreak in Ward 1, were of a slight character, mainly consisting of defective water-closet arrangements. In all the cases occurring in these houses a definite history of contact with a previous case was obtained. The milk-supply in all cases was the subject of careful inquiry, but no connexion between this and the outbreaks in either ward could be traced. The sanitary arrangements of the school in Ward 1 were carefully examined and the drains tested, but only a slight defect was found, this consisting of an untrapped rain-water pipe. In Ward 3 the sanitary arrangements of the school were excellent, the drains having only recently been laid under the supervision of the sanitary inspector.

A review of all the circumstances attending the three outbreaks—the one at Roehampton and the two in Wandsworth—emphasises the fact that diphtheria may show varying degrees of virulence in different outbreaks. In the Roehampton outbreak out of 30 cases reported not one proved fatal. In the first outbreak in this parish 45 cases were reported, of which 12 proved fatal, and in the second 31 cases with 13 deaths. Again, in Ward 1 of this parish diphtheria had been present, though in a mild form, during the previous year; and it is a well-known fact that virulent outbreaks are frequently preceded by a prevalence of sore-throat or of true diphtheria of a mild character. It is difficult to say definitely whether the outbreak in Ward 3 arose out of that in Ward 1. Every inquiry was made into the history of the child first affected in Ward 3, but no definite information could be obtained as to contact with any of the cases in Ward 1. It is quite within the bounds of possibility that such contact did take place, and if so it would further verify the statement made by Sir R. Thorne Thorne as to the progressive power of infectiveness of this disease. The lessons to be drawn from these and similar outbreaks are, in my opinion—that all cases of sore throat should be immediately isolated, and that when possible a bacteriological examination should be made. Immediate notification should be made to the medical officer of health, not only of cases where the symptoms are on the first examination definite, but also in all cases which are at all suspicious. These measures would ensure the exclusion of all infected children from school, and this is, in my opinion, the most important etiological factor in the dissemination of diphtheria in urban localities, and especially in the metropolis.

Wandsworth, S.W

A CASE OF APPENDICITIS WITH SOME UNUSUAL SYMPTOMS.

BY CHARLES D. GREEN, M.D. LOND., F.R.C.S. ENG.

AN ill-nourished and undersized lad, aged fifteen years, was on Sept. 27th, 1893, while employed in field work, obliged to return home on account of abdominal pain. I saw him the same evening; he gave no history of any previous bowel trouble. He had felt a little pain in the abdomen before starting for work, but went to work as usual, walking nearly two miles for the purpose. He continued at work during the morning, but was obliged to return early in the afternoon on account of increase in the pain. He had vomited once during the day. When I saw him he was lying on his back; he did not appear to be seriously ill; his abdomen was not distended, and no tenderness was elicited on examination; his tongue was clean and moist, and his bowels had been open. He had eaten some raw turnip, amongst other things, during the day; no aperient was given, but absolute rest was enjoined. The next day some tenderness was evident in the right iliac fossa. On the 29th the temperature was 101° F.; there was some exudation on the right side; the abdominal walls were rigid; there was a distinct tender spot two inches below, and one inch external to, the umbilicus, and at this spot there seemed to be a greater sense of resistance than elsewhere. The sense of resistance was, however, ill-defined and diffuse; there was no dulness on percussion. The next day (the 30th) the temperature was 102° and there was a little dulness over the tender spot; the general condition did not seem grave. On Oct. 1st and 2nd there appeared to be some amelioration; the temperature on the latter date was 100°, the tongue was moist and clean, there had been no further vomiting since the onset, and the general condition remained about the same; the signs of local exudation were more distinct. So far the case had appeared to me to have been a simple one of appendicitis, localised and threatening to suppurate, but not calling for immediate operation. On the night of the 2nd, however, a sudden and severe exacerbation of pain took place. On the 3rd the temperature was 101°, there was considerable distension of the abdomen, and severe pain referred to the right iliac region; the dulness previously noticed had disappeared. On very light percussion, however, the note seemed somewhat damped over a small area the centre of which was about the middle of a line drawn from the umbilicus to the middle of the right Poupart's ligament. There had been no vomiting. The treatment had hitherto been small doses of opium and enemata; these latter had, however, only brought away a small quantity of hard fæces, evidently from the lower bowel, and it was stated that no flatus had been passed. It was now evident that operation was called for, and it seemed to me that perforation of the appendix had taken place during the night and that if general peritonitis had not already begun the risk of its occurrence would be materially increased by moving the patient. I therefore decided to operate on the spot, although the patient was a pauper and the surroundings far from favourable. On the morning of the 3rd, chloroform having been administered, I made an incision three inches long in the right iliac region; the peritoneum was thick and vascular, and on dividing it I came upon a thickened mass which I took to be the edge of the great omentum. On separating the lower edge of this from its connexions about four ounces of foul-smelling fluid escaped; this was thin and semi-purulent, with flocculent material floating in it; no actual pus was found. The finger inserted into the wound failed to define clearly the appendix, it appeared to be curled up behind the cæcum; a mass of adherent small intestine could be felt at the upper and inner part of the cavity; the finger brought away two fæcal concretions of the size and shape of rice grains, and four other similar concretions were subsequently found in the fluid that had been evacuated. The cavity was gently irrigated with warm mercuric chloride solution (1 in 2000), the upper part of the wound closed with a silkworm gut suture, and a rubber drainage-tube inserted. The patient rallied well from the operation, the pain was relieved, and there seemed at first every prospect of a quiet course. The temperature did not rise above 100°; the bowels, however, in spite of enemata, were not opened, no flatus was passed, and only a small lump of hard fæces, evidently from the lower

bowel, the abdomen became increasingly distended, and by the evening of the 6th this symptom had reached an alarming extent; during the night the patient became much worse and vomiting commenced. On the morning of the 7th the temperature was 97° and the condition of the patient was very alarming, and it appeared to me that there was intestinal obstruction, probably from matting together of small intestine, and that it would be necessary to open the bowel for relief. About 11 A.M., however, a considerable quantity of flatus was passed with some relief to the distension and I decided to wait; in about an hour a copious evacuation followed and all anxiety about obstruction was at an end. Except for the passage of residual contents of the large bowel, constipation had apparently been complete for ten days. During the afternoon of the same day (the 7th) a series of fits occurred, beginning with movements of the fingers of the right hand and gradually spreading to all the limbs, and followed by a period of complete unconsciousness lasting fully five minutes. During these attacks the head was turned strongly to the right and the eyeballs were turned upwards. There was no optic neuritis. On the following morning the patient appeared to be a little better, though much exhausted, but complained that he was totally blind. The pupils were widely dilated. No change was discovered in the retinæ and there was no squint. A slight fit occurred about 4 P.M. The wound was looking well and quite sweet. During these two days there were frequent alvine evacuations, and in the course of the violent convulsions the dressings became disarranged and the wound soiled with fæces. The distension of the abdomen was now completely relieved. On the night of the 8th he had a long and refreshing sleep. The amaurosis had disappeared on the 9th, and for several days afterwards the case ran an uneventful course. On the night of the 17th, however, the patient again complained of abdominal pain and his temperature went up to 101°. The wound had by this time much contracted and was looking well. The tube had been extruded on the 8th, and as there was very little discharge it had not been replaced. The temperature remained during the next two days at from 101° to 102° and the pain continued. On the 19th Mr. Ballance very kindly saw the patient and advised that a counter-opening should be made as far back as possible; this step was carried out on the 20th and a drainage-tube was carried through; irrigation was practised from behind forwards. Some troublesome oozing took place. After the operation the temperature had fallen to 99° and some considerable degree of improvement was manifested, but the patient's condition was not entirely satisfactory; there was considerable abdominal pain and the temperature did not reach the normal. On the 23rd, during irrigation, some clear fluid passed from the anus, but this did not again occur. On the 24th and 25th there was some hæmorrhage from the anterior wound and the temperature had gone up again to 102°. On the 27th there had been no further hæmorrhage, but the temperature remained high, the discharge was offensive, and the patient was evidently suffering from septic absorption; the anterior wound was therefore dilated with the finger, some septic clot was removed, the cavity was well irrigated with hot perchloride lotion, and gauze packing was substituted for the drainage-tube. In the evening the temperature was 100°; there was no pain, and the general condition had already improved. The cavity was irrigated daily with hot chlorinated soda from behind forwards, and the plug in the anterior wound was changed daily. On the 30th a small slough separated, and on the 31st six large pieces of slough were washed away, none of which could be recognised as being the appendix. From this date convalescence was uninterrupted, and when last seen (in June, 1896) the lad was in good health and had been in active work since the spring of 1894. There was some tendency to hernia through the cicatrix. With the exception of the concretions found at the first operation no fæcal matter had passed through the wound at any time.

Remarks.—This case in its protracted and stormy course, and in the extensive sloughing of false membranes that occurred, resembles that described by Mr. Stanmore Bishop in THE LANCET of Dec. 19th, 1896. I am at a loss to explain the convulsions that occurred—I suppose they were a toxic effect of the retained intestinal contents. I have, however, seen one such fit occur in a man during the course of a mild attack of appendicitis. I was inclined to attribute the sloughing in my case to some secondary septic contamination the result of puerperism and dirty surroundings, but in Mr. Bishop's case, in which the lesions must have been very similar, there were no such influences. The development of a dangerous degree of abdominal distension after an apparently satisfactory operation was, I think, a remarkable feature in my case. I do not think Mr. Moynihan, in his article in THE LANCET of Dec. 26th, 1896, quite fairly represents the advice of Professor Reclus in regard to the operative treatment of these cases, for in the article on Appendicitis in the sixth volume of the "Traité de Chirurgie," edited by Reclus and Duplay, on p. 527 there occurs this passage: "Roux, ... Dennis, Reclus, Berger, sont d'avis que trente-six ou quarante-huit heures d'aggravation progressive justifient pleinement l'intervention." One other curious phenomenon I met with in what I believe to have been an appendix case is, perhaps, worth relating. In the beginning of November, 1889, a man, aged thirty-four years, had abdominal pain and fever followed by well-marked exudation in the right iliac region; his symptoms were never acute, but in the second week, when the exudation was clearly subsiding, there developed emphysema over the right abdominal wall and the back of the right thigh; this persisted some three days and was not attended by any exacerbation of symptoms; no suppuration occurred. He made a good recovery without operation. I last saw him in the early part of 1896 and there had been then no recurrence. I think there must have been in this case a minute extra-peritoneal perforation.

Upper Edmonton.

REMOVAL OF A BULLET FROM THE THIGH AFTER THREE YEARS BY THE AID OF X RAYS.

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A MAN, aged forty-three years, when leaving the train at Halifax, Nova Scotia, about three years ago, was shot at by a woman carrying a revolver. The woman was a stranger to him. At the trial a plea of insanity was set up, but failed, and she is undergoing fourteen years' imprisonment. Examination at the time showed that a bullet had entered the right thigh between the great trochanter and the crest of the ilium. An attempt was made to extract it, but unsuccessfully. On Aug. 28th of this year he applied for admission under my care at the London Temperance Hospital. He was a healthy man; the cicatrix of the wound of entry was plainly visible about an inch above the right great trochanter. On the outer side of the right thigh, about midway between the great trochanter and the outer condyle, was a small abscess, evidently leading to a sinus. This had only appeared about a fortnight, and there was no

FIG. 1.

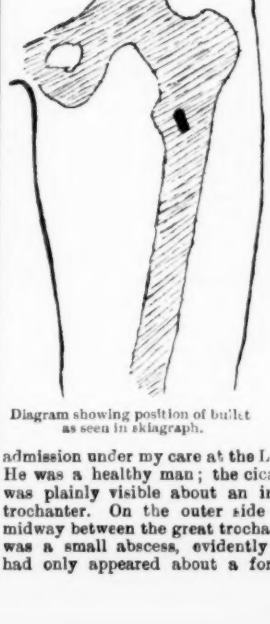


Diagram showing position of bullet as seen in skiagraph.

FIG. 2.

Facsimile of bullet.

other known cause for it than the possible effects of the presence of the alleged bullet. On Aug. 31st he was by my direction x-rayed by Messrs. Coxeter, and being satisfied from an inspection of the negative of the presence of a bullet in the neighbourhood of the femur about the level of the trochanters I determined the same day to make an attempt to extract it. It was not possible to adjust an "Esmarch" at this level. The single radiogram did not permit of predication as to the bullet being in front of, or behind, the femur. I accordingly elected to follow the sinus above mentioned as an Ariadne's thread to the object of my search. Following for some six or eight inches this sinuous track by the guidance vouchsafed by its granulation-clad walls I reached the femur at the level of the lesser trochanter. My left index finger led me to a hard-walled cavity at the back of the femur, in which I felt the end of the imprisoned bullet. I passed a Nélaton's probe over its surface, but without a very reassuring result. A pair of sequestrum forceps, however, easily facilitated the extraction of the bullet. The wound healed rapidly and he was discharged on Sept. 16th. The bullet was a conical one, three-quarters of an inch long and seven-sixteenths of an inch broad.

I have used the x rays in several other cases. In one I was led by their use to the discovery and extraction of a portion of a needle jammed into the superior tibio-fibular articulation so firmly that it required considerable force to remove it with pliers. I ought to add, by way of caution, that in another case I was assured by the radiographer that there was a needle in a boy's knee, as the boy himself alleged and as a radiogram seemed to show. I opened his knee-joint and searched in every nook of that joint and found nothing. On again submitting him to the radiographer I was assured the needle had disappeared. I am glad to say the joint was none the worse for its searching scrutiny, and the boy afterwards ran about without any pain or inconvenience. I merely cite this case to show that some caution is necessary in interpreting our newly acquired means of diagnosis. I also know of a case in which a peculiar appearance of a portion of the femur led the radiographer to infer the presence of necrosis of a considerable area of the shaft of the bone. The symptoms of the case were, however, conclusively against such a possibility. This case again leads me to the conclusion that while gratefully acknowledging the valuable addition to our methods of investigation which Professor Roentgen's discoveries have placed in our hands, it is a mistake to suppose that even in the limited region to which the new method is applicable it has reduced surgical diagnosis to the mere contemplation of pictorial effects. Radiography requires surgical insight and surgical judgment to interpret correctly the phenomena it presents us with and to direct appropriately the course of treatment to be founded thereon.

Albert-terrace, N.W.

SWINDON VICTORIA HOSPITAL.—At a meeting of the committee, held on Sept. 28th, it was reported that the total sum subscribed as the Jubilee Memorial in Swindon towards the Swindon Victoria Hospital Endowment Fund was £1847. The expenses amounted to £265, leaving a balance of £1576 to be vested in the trustees of the hospital.

THE SOCIETY FOR PHYSICAL VOICE-TRAINING.—A public meeting was held under the auspices of this society at Nottingham during Church Congress week, with the object of furthering the work amongst candidates for holy orders. Archdeacon Emery gave a brief sketch from the chair of the movement which had its origin at Nottingham, when the British Medical Association met there in 1892, and mentioned the names of Dr. Dundas Grant, Dr. Sandford, and Mr. Wyatt Wingrave as the medical pioneers. Archdeacon Emery concluded his address by recalling to his hearers the memory "of his old college friend, the late Rev. Professor D'Orsey, who had done so much for thirty years to establish a higher standard of elocution at the Universities, in Parliament, and in the Church." The honorary secretary (Miss D'Orsey, a daughter of Professor D'Orsey) reported that the work was going steadily forward, and read a letter from the secretary of the Junior Clergy Society of London asking for a medical lecturer to address the clergy at Sion College in October as a proof that laymen were waking to the facts that voice-training had its distinct medical side.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A PERSONAL EXPERIENCE OF MALIGNANT DISEASE OF THE LARYNX.

BY C. FLEMING, L.R.C.P. & S. IRELAND.

THE loss of so many valuable lives from cancer of the larynx, the importance of early diagnosis, and of skilled surgical interference, is my excuse (if any is needed) for bringing my own case before the readers of THE LANCET. About the end of June, 1895, my friends noticed a certain amount of change in my voice—huskiness or weakness, they said. I spoke as if I had chronic "laryngeal catarrh." I attributed it to getting heated whilst bicycling and congestion of the throat following from the inhalation of the colder air. My voice became very gradually more muffled in tone; I had no other discomfort whatsoever, no pain, no tenderness on external pressure, no swelling, no glandular trouble, no difficulty in swallowing, in fact, up to the very last I felt in perfect health. Loss, or rather a husky condition, of voice was absolutely my only symptom. In November, 1895, as matters grew worse, I consulted Dr. (now Sir Felix) Semon. After a thoroughly exhaustive examination he discovered a very small growth on my left vocal cord, no surrounding inflammatory or glandular mischief, and the character of the growth not determinable. He wished to see me again in two months' time. As I did not seem to get very much worse I am sorry to say that I delayed my next visit for nearly five months; even then there was no definite diagnosis. In May, 1896, I made my next visit. Dr. Semon again thoroughly examined my throat, and expressed a wish that I should consult Mr. Butlin; I did so, but he was also unable to come to a conclusion as to the nature of the growth. The first week in July, 1896 (or as nearly as possible twelve months from the commencement of my symptoms), I again saw Dr. Semon. At this visit he advised an operation, at least of an exploratory character, but wished to have his opinion supported by another. Accordingly, I called again on Mr. Butlin, who, without being aware of my visit to Dr. Semon, said, "If I were you I would have an operation." I made up my mind at once. It was the first inkling I had given me that the growth might be malignant and I knew that I must lose no time. I now come to a most important factor in my case—namely, the universally expressed opposition I had to encounter from friends—medical and otherwise—when I expressed my intention of submitting to an operation; in fact, I must confess to sitting down to write for an appointment with a very eminent surgeon at their earnest solicitation. Happily my better judgment, or I should say my thorough confidence, prevailed. I can now fully understand the difficulties the lay mind has to contend with before accepting the final verdict and the reason why so many valuable lives have been sacrificed through similar "friendly" advice and misguided persuasion. I placed myself unreservedly in the hands of Sir Felix Semon, and on July 21st, 1896, he performed his operation, tracheotomy, laryngotomy, and complete removal of the left vocal cord, together with a certain amount of healthy tissue. The operation lasted one and a half hours. On the fourth day I sat up for an hour; on the twelfth day I went down to Brighton for a few days before returning to my work; and at the end of a fortnight the external wound had quite healed. Since then I have had no drawback, and my voice has wonderfully improved in tone and quality. The last examination, on July 29th, 1897, disclosed a most satisfactory condition, a well-marked cicatricial ridge having formed just as Sir Felix Semon expected, and quite accounted for the improvement in voice. My age was forty-nine years last February. There is no family history of malignant disease. The following is a copy of Mr. Shattock's microscopical examination: "The sections show typical squamous-celled carcinoma in an early stage. ..... Little horny transformation has taken place. I have made also horizontal sections to see how far the removal is microscopically complete. No cells of the growth reach the divided edge."

Worksop.

THE GLANDULAR FEVER OF CHILDHOOD.

BY G. SCOTT JACKSON, M.D. GLASG.

THE following case appears to me to be fairly typical of this disease as described by Dr. Dawson Williams,[1] and yet it presents one or two points of peculiar interest. First as to the "point of entry" of the infection. In this district at present we are passing through a well-marked epidemic of "milk infection," the sufferers presenting evident symptoms of systemic poisoning, with purging, vomiting, and high temperature, which are only relieved by the complete withholding of all milk. In several instances there are also present one or two swollen glands in the neck which I presume are caused by absorption of poison from the intestine. The diarrhœa, however, in these cases carries off the poison already present and the change of diet prevents any fresh introduction. Where such is not the case and constipation is present instead of diarrhœa the absorption is more complete and glandular fever, as in the instance I am about to relate, results. This child's symptoms were so very similar to those of others round about him suffering from the epidemic, with the exception that (1) he was constipated instead of purged, and (2) the swelling of the glands was more complete, that I cannot help thinking that there is some connexion between the two disorders. That the infection is derived from the intestine rather than from the pharynx is the view held by many responsible authorities. Secondly, as to the termination of the disorder Dr. Dawson Williams observed that this is "marked by the passage of thin greenish fæces mixed with mucus" and Dr. Charles W. Chapman[2] noticed epistaxis in four out of five cases. In my case convalescence was begun by a sudden attack of hæmaturia and by the voiding of two or three offensive stools. The temperature came down at once and improvement was fairly rapid.

The patient was a healthy child, aged three years, with good family history. He went to bed apparently well on Sept. 6th, but he awoke soon after midnight screaming and seemed to be quite delirious. He vomited once or twice and was very feverish. He was a little better on the morning of the 7th, but was hot and restless all day. After another bad night I was sent for on the 8th to find the child with a temperature of 102·8° F. and a certain amount of tenderness across the bowels, which had not been moved for two days. There was no sore throat and no marked redness of the pharynx. The next day the temperature was 103° and there was a tender swollen gland along the anterior border of the left sterno-mastoid. The bowels had been opened after a dose of castor oil, but the tongue was very coated and the child refused all food. On the 11th the whole chain of glands on the left side were enlarged and tender. The temperature was still up to 102·6° and the patient was much distressed. The right side now began to be affected and on the morning of the 14th the head seemed to be fixed by a row of hard glands on each side, the temperature reaching 103·5°. In the evening of the same day I was summoned to find that the patient had been seized with an attack of hæmaturia. The temperature, however, was lower (102°) and the child seemed easier. He had a fairly good night and the next morning, after the passage of two or three watery stools, the temperature fell to normal. Though the urine contained a trace of albumin till the 20th and the swelling of the glands did not entirely subside for some little time, the child never afterwards retrogressed, but made a complete, if somewhat tardy, recovery.

Alnwick.

A CASE OF ACUTE INTUSSUSCEPTION.

BY FREDERICK BROOKE, M.R.C.S. ENG.

CASES of acute intussusception are so grave in character that notes of those in which treatment has been attended with a successful issue will probably be of interest, especially since, as appeared in a recent article by Dr. F. Holme Wiggin in the columns of THE LANCET,[1] opinions differ as to the best method of treating them.

On Aug. 29th last I was called to see a female child, eleven months old, who, the mother informed me, had suffered from constipation and until that morning had not had a motion since Aug. 27th. The motion which had just been passed was lumpy in character and was slightly streaked with blood; it was not saved for my inspection. The child was well nourished but pale, was rather sunken about the eyes, and had a somewhat anxious expression. She had occasional paroxysms of pain, but in the intervals she was bright, took notice of her surroundings, and raised herself up in her cot. There was no vomiting. The pulse was not quick, but full and regular, and the skin was dry. The appetite had fallen off. Two hours before my arrival the mother had administered a teaspoonful of castor oil. The abdomen was moderately distended and not particularly sensitive to pressure. The resonance of the colon was well marked. A provisional diagnosis of constipation associated with flatulence was made and laxatives and a carminative mixture were prescribed. At my visit about 11 A.M. on Aug. 30th the eyes were sunken and the face pale and anxious-looking. The child was in great pain, there were violent straining and tenesmus, and the buttocks were covered with blood-stained mucus which was seen to be exuding from the anus; there was frequent vomiting. On passing my forefinger into the rectum I found it almost entirely occupied by a sausage-shaped tumour round which the finger could be swept and presenting a central orifice. Pressure, however slight, on the abdomen gave rise to great pain. To effect reduction I made use of enemata of warm water combined with inversion of the patient. At the first attempt practically none of the water was retained, but as it was forcibly injected a subsequent examination showed that the tumour had receded very slightly. After a short interval another pint of water was injected slowly but forcibly, and since a certain quantity of this was retained I now had the patient inverted. Per rectum the intussusception could now only barely be reached with the tip of the forefinger. Once more the treatment was repeated, the rectum being encouraged to retain as much of the fluid as possible and inversion practised as before. A further examination failed to show any signs of the presence of the intussusception. The hips were now elevated and the child ordered to be kept perfectly quiet. On calling two hours afterwards I was informed that the patient had rested quietly, had not been sick, and was very willing to take nourishment, which was only allowed in small quantities at a time. Drop doses of tincture of opium were ordered every four hours to quiet peristalsis and the patient was allowed to suck ice. On my visit at 11 A.M. on Aug. 31st I found that the child had slept for two hours at a time and that she had pain only occasionally; the abdomen was sensitive to pressure and was moderately distended. She vomited once in the early morning and once again at 6 A.M. The patient seemed brighter and the eyes were less sunken. During the day she passed flatus several times. The resonance of the colon was well marked. At 8 P.M. I was informed that there had been no further vomiting and that the child had "talked" for the first time since her attack and shown an inclination to play. Nourishment was taken readily. There was no discharge from the bowels. On Sept. 1st the child passed an almost healthy motion in the morning, the only departure from normal being the admixture of a perceptible quantity of mucus. She was laughing and playing in the mother's arms when I made my visit. The further progress of the case presented no points of interest and there has been no return of the symptoms.

West Bridgford, Notts.

[1] THE LANCET, Jan. 16th, 1897.
[2] THE LANCET, Feb. 20th, 1897.

[1] Infantile Intussusception: A Study of One Hundred and Three Cases treated either by Enemata or Laparotomy, and a Report of Two Hitherto Unreported Cases, THE LANCET, Aug. 28th, 1897, p. 525.

SLAUGHTER-HOUSES IN BATH.—At a meeting of the Bath Sanitary Committee, held on Oct. 4th, the sub-committee recommended that if a person or a private company would submit plans for the erection of slaughter-houses on an approved site they should be favourably entertained. This recommendation was adopted, and a resolution was passed urging the Corporate Property Committee, who own the slaughter-houses in Parson's Yard, to treat for the surrender of the lease in order to close them.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF STREPTOCOCCUS PYÆMIA TREATED WITH ANTI-STREPTOCOCCIC SERUM.

(Under the care of Mr. BUTLIN.)

IN THE LANCET of July 10th, 1897, p 91, we published a case of pyæmic arthritis which had been under the care of Mr. Butlin and Mr. Lockwood and in which recovery occurred after the use of anti-streptococcic serum; but in that case no bacteriological evidence of the presence of streptococci was available, and, moreover, there was no definite proof of any benefit resulting from the injections. In the following case the pus from an affected joint gave a pure culture of streptococci, but the injections seemed to be of no obvious utility and death ensued very much as if the serum had not been employed. Up to the present time no certain decision can be expressed as to the value of anti-streptococcic serum; its employment has in certain cases been followed by recovery, but not in a sufficient proportion to justify the opinion that the serum was certainly the cause of the recovery. It is therefore highly desirable that as many cases as possible should be put on record in which it has been employed intelligently and with a bacteriological examination of the case. For the notes of this case we are indebted to Mr. J. Preston Maxwell, house surgeon.

A man, aged sixty-seven years, was admitted into St. Bartholomew's Hospital on April 15th, 1897, with the following history. He had always enjoyed good health until August, 1891, when he had an attack of cellulitis of the right arm and forearm. The following December he was admitted into the hospital, and a localised abscess in the neighbourhood of the right elbow was opened. In January and again in July, 1893, he was admitted with another abscess in the same situation. No necrosed bone was found on any of the occasions, and he left the hospital in August, 1893, well, with all the incisions soundly healed. He returned to the hospital on April 15th, 1897, saying that for the past week the right elbow had been swollen and painful and that it had begun to discharge. From the middle of the forearm to the middle of the arm the limb was swollen and œdematous and the skin was red. In front of the elbow-joint was a discharging sinus, and fluctuation could be obtained over the inner surface of the ulna. Several scars of old incisions were present around the joint. The temperature was 97° F., the pulse was 96 and the respirations were 30. About an hour after admission he had a severe rigor and the temperature ran up to 104°, falling again to normal in about an hour. The same evening he was anæsthetised and the elbow explored. The sinus in front was found to lead directly into the elbow-joint, of which all the articular surfaces were bare of cartilage. The joint was washed out with a solution of biniodide of mercury (1 in 2000), and counter incisions for drainage were made. The abscess on the inner surface of the ulna was opened, and found to communicate with the joint. He passed a bad night, and his temperature gradually rose till it reached 103° at 11 A.M. on the 16th. His condition was then worse; he was drowsy, his pulse was 100, and the respirations were 30; the bowels were not open, and as he had retention of urine a catheter was passed. In the evening of the 16th he began to complain of pain and stiffness in his left shoulder-joint, which was found to be distended with fluid. He was again anæsthetised, the skin was disinfected, and a sterilised needle was introduced into the joint; pus was withdrawn, which on being cultivated yielded a pure culture of streptococci. An incision was made downwards from the point of the shoulder, the fibres of the deltoid were separated, and the joint was opened; it was washed out thoroughly with solution of biniodide of mercury (1 in 2000) and a counter opening made for drainage into the axilla. His temperature continued to rise, and at 7 A.M. on the 17th it had reached 104°. He was worse and had begun to pass his motions under him. At 6 P.M. the first injection of anti-streptococcic serum was given, 15 c.c. being injected into the right rectus abdominis muscle. At midnight 10 c.c. more were injected, and sulphate of quinine was given in doses of five grains every six hours until twenty grains had been given. On the 18th his condition was still worse; he was semi-comatose and was passing everything under him. His temperature was 102°, the pulse was 84, and the respirations were 40. He was perspiring profusely and was able to take fluids fairly well. His whole body seemed to be tender, pressure anywhere appearing to cause pain. His other joints were natural. The joints which had been opened were irrigated daily with a solution of biniodide of mercury (1 in 4000) and dressed with antiseptic gauze. At 11 A.M. a further injection of 10 c.c. of the serum was given, and at 10 30 P.M. 15 c.c. were injected. The administration of quinine was also continued. He grew steadily worse, and on the 19th he was almost comatose and could not recognise his friends. The urine and motions were passed involuntarily. The temperature varied from 100° to 104°; 10 c.c. of anti-streptococcic serum were injected at 10 30 P.M. and the dose was repeated at 11.30 P.M. He now commenced to take nourishment badly and was unable to swallow properly. During the 20th he steadily grew worse; 10 c.c. of the serum were given at 10.30 A.M., but after this the injections were stopped, as it was clear that the patient was dying. He remained unconscious till his death at 1 20 A.M. on the 21st. After death the temperature rose till it reached 105°. A post-mortem examination was not allowed, but as far as could be ascertained no result whatever had followed the injections and no rash or inflammation appeared at the sites of puncture of the hypodermic syringe.

ST. MARY'S HOSPITAL.

FIVE CASES OF INJURY TO THE HEAD.

(Under the care of Mr. H. W. PAGE.)

IN few of its departments has surgery made more advance of recent years than in the treatment of fracture of the skull and its complications. Trephining was always a perilous procedure when there was so much likelihood of a septic meningitis following the operation; but at the present time it is not accompanied by anything more than a very slight risk if due care is taken in the performance of the operation and complete asepsis is practised. C. B Nancrede has shown[1] that at the present time the mortality from trephining is less than one-seventh of that occurring in pre-antiseptic days.

CASE 1. *Abscess in frontal lobe following fracture of frontal bone.*—A little boy was admitted to the hospital early in March, 1896, with a small open wound over the right frontal eminence, from which there was said to be a great quantity of purulent discharge. It had been caused by a blow on the part some weeks before. The child had a normal temperature and seemed to be in no way ill save that he was somewhat apathetic, listless, and dull. The propriety of examining the bone was obvious, and having enlarged the wound there was found a punctured fracture, and pus welled up from within the cranium. A piece of bone was therefore removed by a quarter-inch trephine, when it was seen that the pus came from beneath the dura mater and the probe passed into a cavity in the frontal lobe. The opening into this was dilated, and thus the cavity was washed out and a small drainage-tube was inserted. The discharge ceased with striking rapidity and in a few days the boy was well. A marked change, moreover, became noticeable, in that the dull, listless, and apathetic child became bright, merry, and playful. The case, indeed, afforded a very good example of the kinds of mental disorder which have often been noted in connexion with lesions of the frontal region of the brain.

CASE 2. *Compound comminuted depressed fracture; trephining a week after the injury.*—A boy, aged ten years, was brought to the hospital on March 19th, 1897, with a history that on the 12th he had been struck by the seat of a swing on the right side of his head. There was a good deal of bleeding from a wound an inch long an inch above the tip of the auricle,

[1] Medical News, Philadelphia, 1888, p. 85.

and this having been attended to by a surgeon the lips were drawn in apposition with plaster—somewhat antiquated surgery. The boy was more or less unconscious for a few hours. On the 14th and 15th there is a vague account of twitching of his left limbs having been noticed by his mother, and he was said to have wandered. He commenced also to complain of pain in his head, and as, moreover, his temperature had begun to rise and the wound discharged and looked foul he was brought to St. Mary's Hospital. The wound was now much inflamed and the temperature was 100° F. The child was perhaps rather drowsy, but it could hardly be said that any of the symptoms were really indicative of cerebral disturbance, the state of the wound being sufficient to account for them. He was, however, promptly removed to the theatre, and under anæsthetic exploration it was at once obvious that there had been considerable injury to the bone. The wound was therefore prolonged right and left, and a semilunar flap was turned down. It was then seen that there had been an extensive horizontal fracture involving the region and following the direction of the squamous suture three inches in length from the pterion backwards. The upper part of the bone had been driven in and was so tightly wedged beneath the lower that it became necessary to make three separate trephine holes in order to raise and replace it in position. This was satisfactorily accomplished, and from the dura mater itself there was cleared some adherent stuff which looked like partially decolourised blood-clot mixed with lymph, but no pus was seen. The brain pulsated naturally. With the application of carbolic acid fomentations the wound was in three days clean and the temperature had fallen to normal, but healing took place by granulation and was somewhat slow because of the exfoliation of a piece of the outer table of the replaced bone. Never at any time were there symptoms of cerebral irritation or disturbance, and in the middle of May he left for a convalescent home. Two months later he was seen to be quite well.

CASE 3. *Compound depressed fracture; wound of the dura mater.*—A youth, aged seventeen years, was admitted to the hospital in an unconscious state on the afternoon of Dec. 18th, 1895, having been thrown from a trap, of which the end of one shaft had then been driven into the side of his head. Soon after admission he vomited blood, which had probably come from the nose. The unconsciousness then became less profound and he was able to speak. Over the left parietal eminence there was a superficial graze, and immediately above the auricle was a jagged lacerated wound which was bleeding freely. Beneath it was a deep pit, as of in-driven bone. A flap of scalp having been turned back it was seen that a circular piece of bone, the size of the end of the shaft, had been driven inwards. This involved the squamous portion of the temporal as low as the petrous. The opening having been enlarged by Hoffmann's forceps the circular piece of bone, which was really in three fragments, was easily withdrawn. There was a laceration of the dura mater, and particles of brain substance, together with fragments of dried paint from the end of the shaft, were removed in the process of cleansing the depths of the wound. The bleeding had been altogether superficial, although at one time it was feared that the source of it might be a branch of the middle meningeal. The wound was closed without drainage, remained dry, and healed at once. The pulse and state of consciousness improved after the operation, but the temperature continued to be subnormal for four days. When he left the hospital early in February he was well, his long stay having been necessitated by the treatment of old-standing discharge from both middle ears. In connexion therewith it should be said that for a few days after the accident he had slight left facial paralysis, and it was by no means certain that this was not due to fracture extending into the petrous portion of the temporal bone.

CASE 4. *Compound fracture; extensive splintering and depression of bone.*—On Nov. 22nd, 1893, a boy, aged fifteen years, fell forty feet on to a rockery in a garden beneath when cleaning windows, and was brought directly afterwards unconscious to St. Mary's Hospital. He rallied, however, soon. There were several minor injuries and a bruised wound of the scalp immediately above the right ear leading to bone which was evidently much comminuted. There was no bleeding of moment. By enlargement of the wound the fracture was seen to involve the region of the pterion, and portions of all the bones which meet at this part were found to be broken and depressed. It was necessary to trephine in two places in order to elevate, and it was then found that a portion of the squamous bone of about the size of a postage stamp had been driven in towards, and lay horizontally upon, the floor of the skull. It might easily have been overlooked. When all the parts were restored to their relative positions the deficiency of bone in the cranial wall was of a dumb-bell shape—two trephine holes with an intervening portion—and extended in the horizontal direction for two inches. The middle meningeal was intact, although lying immediately beneath the line of fracture. The soft parts were adjusted with deep and superficial sutures, and excepting that middle part of the wound which had been originally contused forthwith healed without trouble. And the boy himself, as far as his head injury was concerned, was soon quite well, so that when he left on Jan. 9th, 1894, he returned to his former master's employ. When heard of subsequently he was in the best of bodily and mental health.

CASE 5. *Fracture of base; fatal hæmorrhage from lateral sinus.*—Remarkable in more ways than one this case was certainly beyond the range of surgery, but it is worthy of note because of the several interesting features which it presented. A man, aged forty years, was picked up in a street near the hospital by a policeman who the moment before had passed him walking, but happening to look round saw him, as he thought, in a fit in the middle of the road. When admitted the man was profoundly comatose, but twitchings were noticed of the right angle of the mouth, of the right arm and leg. There was no evidence of injury and he was taken into a medical ward, the story of the policeman and his symptoms alike suggesting that this was the proper place for him. He had not been long in, however, before a distinct swelling was seen in the left temporal region, and as this somewhat rapidly increased in size Mr. Page was sent for. The dressers meanwhile began to shave his head, and when the surgeon arrived at the hospital three and a half hours after the patient's admission he was greeted with the announcement that the man had that moment died. And dead to all appearances he lay. Without a second's delay, therefore, artificial respiration was begun, and under artificial respiration, the pulse having now returned, he was moved to the theatre and proceedings were undertaken to explore. A flap having been turned down from the temporal region a horizontal fracture was seen to run right across the squamous bone and blood was issuing from it. A trephine opening was made over the middle meningeal, but this vessel was found to be whole. Blood, nevertheless, poured in volumes from between the dura mater and the bone, and seemingly came from the posterior part of the cranial cavity. Plugs of gauze failing to arrest it a second opening was made over the temporo-sphenoidal lobe, and it now became possible, although with much difficulty, to plug and arrest the bleeding, which appeared to come from the neighbourhood of the left lateral sinus, if not from this blood channel itself. Artificial respiration was now no longer necessary, but after so much terrible bleeding the pulse had become extremely feeble and the man gradually sank, at no time having aroused in the slightest degree from the profound coma in which he lay. It was found that he had been a hospital patient five years before for concussion of the brain and that he had never been quite right mentally since.

Necropsy.—At the necropsy the frontal lobes were found to be most severely and extensively lacerated, and the left hemisphere was much flattened, as by compression from recent blood extravasation. There was an extensive horizontal fracture on the left side of the skull, and a basal fracture, starting near the lambdoid suture, ran in various directions and crossed the left lateral sinus at its sigmoid curve and freely lacerated it in its course. This was the source of the hæmorrhage which was in the end controlled. There was no sign of hæmorrhage in the interior of the brain.

Remarks by Mr. PAGE.—Cases 3 and 4 may be contrasted with 1 and 2 in that in the two former the promptest treatment was brought to bear upon the injured skull and restoration to health was impeded by no untoward event, whereas in Cases 1 and 2 dangers of no inconsiderable import arose in consequence of delay. Waiting for symptoms, waiting, that is, for the mischief that gives rise to them, is happily a thing of the past. It is hardly worth while to speculate what might have been if this or that had been done differently or earlier in Case 5, for I take it that even if the lateral sinus hæmorrhage could have been stayed with greater expedition the man had undoubtedly received mortal injuries to his brain. I would direct especial attention, however, to the fact that artificial respiration was of real

service in restoring life, and in giving the opportunity of resorting to measures which in a less serious case might have been followed by success. And it is conceivable that death from compression of the brain by blood might thus be averted, when in case of unavoidable delay it would otherwise prevent resort to the only means which the surgeon has at his disposal for attempting to save life. I am indebted to my dressers, Mr. Tenison, Mr. Gardiner, Mr. Wilson, and Mr. MacCallan for the notes of these cases.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Presidential Address.—The Works of John Arderne.

A SPECIAL general meeting of this society was held on Oct. 11th, the retiring President, Mr. REGINALD HARRISON, being in the chair.

The reports of the council and treasurer were read and adopted, and showed that the society is in a flourishing condition. A vote of thanks to the retiring president and to the retiring secretary, Mr. G. R. Turner, were carried with much enthusiasm. The first ordinary meeting of the society for the present session was then constituted, the President, Dr. SANSOM, being in the chair.

The PRESIDENT delivered his inaugural address on the Investigation of Some of the Nervous Disorders of the Heart, of which the following is an abstract:—There are some variations from the normal functioning of the heart which are attended by feelings of acute pleasure. This fact has been recognised from time immemorial and has been incorporated into the language of every-day life. So we have the words in the vernacular—*hearty*, *heartfelt*, and, derived from the Latin, *cordial*, with its substantive, *cordiality*. Conversely, an aching heart is in ordinary language the expression of sorrow and depression. It is a truism to many that variations of the functioning of the heart associated with subjective feelings of pleasure or of pain are consistent with a structural integrity of the organ so far as can be determined by physical means of investigation. Perturbations of the heart's rhythm, whether in the sense of tachycardia or of arhythmia or of bradycardia, are essentially independent of any structural disease of the heart and of its valves, and are entirely due to causes involving the nervous mechanism of the cardiac reflex. In a great majority of such cases careful physical examination during life reveals no trustworthy evidence of structural disease, and in some of the few in which death has occurred, and has been followed by necropsy, no organic changes in the heart have been noted. I conclude that when structural disease of the heart has been observed in the subjects of perturbed rhythm, either the latter has been a coincidence, a superadded phenomenon, or the organic cardiac changes have been secondary to the disorder of the nerve mechanism. For instance, I have seen well-marked Graves's disease supervene upon chronic valvular disease, the result of antecedent rheumatic endocarditis; and I have observed dilatation of the heart with mitral incompetence to occur in the course of Graves's disease when there has been no reason to suspect any intercurrent malady. In the latter case I have found that the signs of structural disease of the heart have borne no proportion to the degree of cardiac tumult. The subject of a very rapid heart (from 120 to 160, such rate being manifested for many months) may never show signs of cardiac dilatation or of structural change, whilst one in whom there is only a moderate tachycardia (100 and under) may manifest the advent of undoubted dilatation of the left ventricle with valvular incompetence. It is therefore necessary in every case that in addition to the employment of the ordinary method of physical diagnosis for the discovery of organic changes within the heart there should be a careful investigation of the nervous system, more especially in its relation with the cardiac reflex. On this point I propose to suggest a scheme of examination and to offer a few hints. It will of course be understood that what I propound must of necessity be brief and incomplete. In the first place I would urge the importance of keeping the patient who is to be examined as tranquil as possible. I dare suggest that in some instances it is probable (in the cases of candidates for life assurance, for example) that a life has been embittered because the physical examination has been conducted on a subject in a state of abnormal excitement, and a systolic murmur at or near the apex has been wrongly interpreted as the index of an organic disease. I suggest, therefore, that the examination should be commenced when the patient is in the sitting position, the ordinary clothing not being removed. Amongst the most important are the signs observed by inspection of the eyes and eyelids. Any protuberance of the eyeball will, of course, be observed and its relation with the condition of the thyroid and the rate of the heart's pulsation recorded. Any retraction of the upper eyelids towards the margin of the orbit must be noted, for this is a sign of considerable importance. It often exaggerates the prominence of a bulging globe and sometimes it produces the semblances of an exophthalmos when there is really no prominence of the globe. Another sign is observed in regard to the upper eyelids in many cases of tachycardia. When the patient has been told to close the eyelids gently the upper lid has manifested a very marked and unusual tremor. This sign may be observed in the early stages and also in the recovering stages of Graves's disease. Von Graefe's sign and Dalrymple's (eyelid) retraction often co-exist, but the one may be observed without the other. In some cases the normal balance of the muscles of the globe is somewhat perverted, so that one eye appears to be on a lower level than the other.[1] I have also noted in some instances a decided inequality of the pupils—of course, unexplained by organic causes—which become restored to the normal when the other disorders of function ceased. When these signs exist, especially in combination, I think they have an important significance. In the great majority of cases they are associated with heart disturbance or heart distress. The most frequent form of disorder is tachycardia, the rapid heart, persistent or paroxysmal. This has long been recognised; the association of the eye and eyelid phenomena with Graves's disease, of which tachycardia is so marked a feature, has been fully acknowledged. Less frequently the association is with extreme irregularity of the heart's action; and such irregularity, rather than rapidity, I have found in some cases of typical Graves's disease. I have observed well-marked von Graefe's sign in a man, aged forty-nine years whose pulse was only 63, but showed very marked irregularity, and in whom there was much subjective heart distress. In some of the cases in which I have observed the signs noted there were great variations of rate in the heart-beat, a state which may perhaps be termed irritable heart—for instance, in a man aged forty-eight years, manifesting slight exophthalmos and inequality of pupils, the heart-rate 76 in the sitting position, 84 in the standing, and then a sudden rise (without any evidence of discomfort) to 114. In other cases, though there have been no perversions of rate and rhythm of the heart to be noted, the patients who have shown well-marked eye and eyeball signs have manifested symptoms of distress referred to the heart. It is no doubt correct that well-marked eyelid phenomena may occur (though rarely) in those who show no cardiac signs or symptoms. Sharkey found von Graefe's sign in 12 out of 613 cases of all disease in his out-patient room. Dalrymple's sign has been recorded as frequently seen in neurotic and hysterical subjects. In many of these, however, it is probable that subjective distress at least or else deviations of rhythm occurred. I have seen well-marked von Graefe's sign in a young man addicted to alcohol and in an old woman with emphysema, both of whom manifested heart symptoms. Nevertheless, I cannot doubt that the signs I have mentioned are of considerable practical significance, for they indicate very strongly the probability that the patient who manifests them will present signs of disorder or distress of the heart. It is important that the auditory mechanism and the naso-pharyngeal tract be explored, for from data which I have already published[2] I have convinced myself that irregularity of the heart is sometimes the result of disease of these organs. The pulse at the wrist should be carefully explored by palpation and its lessons supplemented and controlled by a determination of the rate and character of the heart's pulsations as determined by auscultation. Such auscultations should at first be practised when the patient is sitting quietly.

[1] Transactions of the Ophthalmological Society, 1886.
[2] Transactions of the Medical Society, vol. xvi., p. 107.

the clothing as yet unremoved. Much valuable evidence, notably the accentuation of the second sound in its predominance in the aortic or pulmonic area, is obtained by this preliminary method of auscultation. The existence and site of muscular tremors should be observed and noted. If fine tremors of the muscles of the trunk are present they suggest a disorder of the nervous mechanism of the heart of the nature of Graves's disease. The clothing being removed the chest is, of course, to be examined by the ordinary means of physical diagnosis. In regard to the nervous disorders of the heart the most important points are the determination and the significance of dilatation of the heart and the characters and diagnostic indications of a systolic murmur heard at or near the apex. Extreme dilatation of the heart may occur from causes affecting the nervous elements, such as neuritis of the vagi, and yet the normal conditions may return in the course of a fortnight. The bulk of the heart in some cases varies considerably in the course of twenty-four hours. Hutler brought evidence to show that in the normal heart there are rhythmic diurnal variations in volume. A systolic murmur heard at or near the apex of the heart is sometimes erroneously interpreted as the index of structural disease. It may certainly be entirely independent thereof and only an indication of nervous disorder. In such cases it is of the first importance to determine whether or no there are persistent changes in the bulk of the various chambers or in the sounds which indicate overstrain in the circuits. A loud second sound over the pulmonary artery means structural disease. On the other hand in the case of a systolic apical murmur due to neurosis, the heart is not dilated, and in the great majority of cases is smaller than the normal. A systolic murmur which is independent of structural disease seldom attains its maximum audibility at the exact apex, but slightly to the right, to the left, or above this point. It is usually soft and does not replace the first sound. It does not occupy the whole, but a middle period of the systole (it is meso-systolic). It is much influenced by the movements of respiration. As a rule it is intensified both during expiration and respiration (especially the latter), but it often becomes inaudible at the end of an expiration. If, therefore, rhythmical *crescendo* and *diminuendo* in the sound of the murmur are heard during the respiratory acts the murmur is probably not due to organic change. It is important that auscultation should be practised, not only in the erect or sitting, but also in the recumbent position of the patient. Very frequently a murmur is very audible in the recumbent position, but disappears when the sitting or erect position is assumed. In such case a confident opinion may be given that there is no structural disease. In a minority of cases the rule is reversed, and a murmur which is not detected in a patient in the recumbent position becomes audible when the erect or sitting posture is assumed. Potain has made a most valuable and elaborate study of these which he calls cardio-pulmonary murmurs. He believes them to be due to causes external to the heart. When the heart is distended in diastole certain portions of the adjoining lung are pressed against the thoracic wall and the air is squeezed out of them, when there comes the systolic recession; provided always the muscular contraction is accomplished rapidly the comparatively airless tongue of pulmonary tissue becomes quickly inflated, and this sudden inflation causes the sound. The mechanism reverts for its determining cause to the nervous elements. There must be an abnormal suddenness of ventricular contraction, and for the establishing of the validity of the theory it may persist for months and even for years. With the highest appreciation of the conscientious and elaborate researches of Potain, I think that a more probable explanation of the murmur is to be found in a derangement of the nervous mechanism of the cardiac systole. The ventricular systole is a complex act—a correlated sequence of muscular contractions, as shown by the researches of Roy and Adami of Ludwig and Hesse. It is not difficult to realise that these may be disturbed and may continue so disarranged for protracted periods, the effect of such disarrangement being a slight mitral reflex, harmless and transitory, or abnormal vibration communicated to certain portions of the structure. Whatever the proximate cause the ultimate cause is a disturbance of the nervous mechanism of the heart. My object has been to urge the importance of an investigation into the nervous condition of the heart, which should go *pari passu* with the use of the ordinary means of physical diagnosis.

Mr. WILLIAM ANDERSON read a paper on John Arderne and his Time (which will appear in full in THE LANCET shortly). He said that the hero of his communication was born in 1307, and was a contemporary of Chaucer, Wycliffe, Froissart, Petrarch, and the great French surgeon, Guy de Chauliac. He practised at Newark, in Nottinghamshire, from 1349 (the year of the Black Death) to 1370, when he settled in London and published some twenty essays in Latin on the treatment of various medical and surgical complaints. He owed nothing to his predecessors in England, where surgical practice was almost entirely in the hands of the illiterate and unskilful. His writings show him to have been well acquainted with the French and Italian writings of the time, and he appears to have been acquainted with the writings of Galen and Hippocrates. Surgery in his day was held in extremely low repute. The regular physicians looked on surgery as beneath their notice and its practice fell into the hands of:—1. Masters of surgery who probably had some slight scholastic training—a class to which Arderne himself probably belonged. 2. The barber surgeons, who had inherited the manual functions of the erstwhile monkish physicians, who were now prohibited by Papal decrees from practising. Neither the masters nor the barbers appear to have done more serious operations than phlebotomy, opening of abscesses, and extraction of teeth. They had no knowledge of how to arrest hæmorrhage, and charms and incantations formed a large part of the treatment. 3. The "specialists," who were chiefly foreign, and native itinerant bone-setters, lithotomists, and others. 4. Amateurs, mostly charitable ladies, with their simples, who probably did no more harm than the regular fraternity. There are twenty-two Arderne manuscripts in the British Museum, most of them fully illustrated, particularly with drawings of the plants which he recommends as drugs. The only operations which he describes fully are those for fistula and for cutting stones from the urethra. But mention is made of a special instrument for crushing a vesical calculus. In his preface to one of his essays, "On the Manner of the Leech," he gives much shrewd advice as to the deportment and private life of a surgeon, coupled with practical hints as to asking for a sufficient fee, giving a guarded if not wily prognosis, &c. His directions for the operative treatment of fistula *in ano* are greatly in advance of what is found in subsequent English writings till we come to the time of Richard Wiseman, although there is little that is in advance of the Greek methods. He could not, however, free himself entirely from the superstitious ideas of his predecessors, teaching, for example, that operations about the anus must not be performed when the moon is in Scorpio, Libra, or Sagittarius, "because these signs token the part in question," and that hæmorrhoids and menstruation are provoked by phlebotomy of the internal saphenous vein; while blood-letting from the external vein has the exactly opposite effect. The external applications which he chiefly employed were arsenic, verdigris, alum, &c., and oily preparations made from various flowers; but there are few of the loathsome preparations which disgrace the materia medica of later times. Of internal medicines, the two which he most commends depend chiefly on opium for their activity. Altogether, although he does not inaugurate a new era he shows both scholarship and capacity far in advance of his contemporaries, and succeeded in raising his profession in the world's esteem.

CLINICAL SOCIETY OF LONDON.

President's Address.—Loreta's Operation for Stricture of the Pylorus.—Cerebral Sinus Thrombosis.—Impaction of Tooth-plate in the Œsophagus.

THE first meeting of the session was held on Oct. 8th, the President, Mr. LANGTON, being in the chair.

The PRESIDENT thanked the members for the honour that they had done him in electing him to the chair, which he had formerly filled temporarily when a vacancy was caused by the death of Mr. Hulke. Alluding to the prospects of the society he pointed out that although its prosperity, as evidenced by the number of members and the state of its finances, was more satisfactory than it had ever been, there were difficulties to contend with. They had to fear the indifference of members as well as the rivalry of younger societies. He pointed out how thoroughly the society had justified its existence, and referred in particular to the important discussions during last session on the operative treatment of disease of the appendix and to the report of the

committee on myxœdema, which had not only enlightened the profession as to the pathology of the disease, but had led to the discovery of a means of combating the disease which had proved applicable in a number of other morbid conditions. He presented the new volume of the Transactions to the society, congratulating the secretaries on the punctuality with which they had prepared it, and announced that the new index to the first thirty volumes was almost ready and was, he believed, the best index of the kind in existence. In conclusion, he announced his intention of deferring the usual inaugural address until the first meeting of next session.

Dr. WM. HENRY WHITE and the PRESIDENT related a case in which Loreta's operation was performed for the relief of Stricture of the Pylorus. The patient was a man, aged thirty-two years, who had had good health till he was twenty-eight years of age, when he had typhoid fever. For three or four years he had had severe gastric pain increased by solid food and relieved by vomiting, and during the last few months before he came under observation he had emaciated rapidly, and he had become almost unable to retain food at all. In July, 1893, when Dr. White saw him, he weighed only 7st. 3½lb. He was very restless, and there was considerable pain, especially after food. The abdomen was retracted, and on deep palpation an indefinite swelling could be detected in the neighbourhood of the pylorus. As the emaciation and vomiting continued in spite of treatment Dr. White asked Mr. Langton to see him with a view to surgical assistance. It was agreed that the duration of the symptoms rendered malignant stricture unlikely, and the consent of the patient was obtained to the operation of laparotomy in order if possible to perform dilatation of the pylorus. A few adhesions present were easily separated, and the pylorus was found to be very dense and hard. An opening was made into the stomach, and the pyloric orifice proved to be so tightly stenosed that it only admitted a No. 1 catheter. Larger and larger instruments were cautiously passed through the pylorus until at length two fingers could be introduced. The wound in the stomach was then closed with Lembert's sutures. The patient made an uninterrupted recovery, and was able to take solid food on the twelfth day. He was seen three years after operation in perfect health, able to eat anything, and weighing 11st. 7lb. The publication of the case had been delayed until it could be certain that the relief of symptoms was permanent — Mr. PEARCE GOULD congratulated Dr. White and Mr. Langton on the success of the operation. He remarked that Loreta's operation had never become popular in this country, pyloroplasty being in much greater favour. Recently at a congress of German surgeons pyloroplasty, or sometimes anastomosis between the stomach and small intestine, had been recommended even when the ulceration was elsewhere than at the pylorus, so as to allow of ready escape of the gastric contents. The objection to Loreta's operation was that there was a tendency for the symptoms to return. He had published several years ago a case in which he performed Loreta's operation for a simple stricture of the pylorus with immediate relief to the patient's symptoms. The subsequent history of that case was very instructive. Some months later the symptoms recurred, and on exploration extensive adhesions were found between the pylorus and the liver, which he broke down, and there was again immediate but temporary relief. Twelve months later he was again compelled to operate and found still more extensive adhesions. At the present time the symptoms had again returned and the patient was in as miserable a condition as before the first operation.—The PRESIDENT said that the operation in this case had been done four years ago before pyloroplasty had come into vogue. He felt certain now that that was the best operation for cases of this description. In such a case as Mr. Gould's, where there was recurrence, he thought that the best course would be to perform gastro-enterostomy. Judging, however, from the statistics of his own hospital the risks of this operation were very great.

Dr. A. G. PHEAR read an account of a case of Cerebral Sinus Thrombosis occurring in a child aged seven years. The onset of the symptoms was abrupt, the child, after calling out loudly, immediately becoming unconscious, and not fully regaining consciousness throughout her illness, of which the duration was twenty days. There was no evidence of middle-ear disease, nor could an account be obtained of antecedent diarrhœa, or of any acute specific fever except measles at the age of five years that there must have been previous ill-health was, however, indicated by the contracted state of the kidneys discovered at the necropsy. The main features of the case consisted of prolonged unconsciousness, with great restlessness and irritability, the child often tossing her limbs about with considerable violence, crying out, and actively resenting interference, though in other respects insensible to her surroundings and passing urine and fæces under her. There were no convulsions or vomiting. The only sign of motor irritation was rigidity of the posterior neck muscles and of the abdomen; the rigidity was persistent, the head being retracted and the abdomen at times hollowed. There was for a short time a slight divergent strabismus. The pupils were equal. No satisfactory view of the fundus was obtained. There was no discharge from the ear, no epistaxis, and no localised œdema about the root of the nose or elsewhere. The knee-jerks were exaggerated; no ankle clonus was obtained. The temperature was raised at the beginning and end of the illness; it gradually fell from 104° F. at the onset to 99°; there was then a period of eight days during which the temperature was normal; later it again rose to 102·4°. Cheyne-Stokes respiration was noted twice; on the first occasion groups of two or three forcible respirations were separated by a prolonged pause; the second occasion was characterised by a gradual rise and fall in the amplitude of respiration. Respiratory symptoms were at no time urgent. Towards the end of the illness diarrhœa set in; with this the strength rapidly failed and the child died from exhaustion. At the necropsy the whole of the superior longitudinal sinus was found to be blocked with partly decolourised adherent and ante-mortem clot, extending for about an inch into the tributory veins on either side. The left lateral sinus was distended with similar clot, continued into the internal jugular vein, the whole length of which was occupied with ante-mortem clot, extending for a short distance into the left subclavian vein. The left innominate vein contained dark post-mortem clot. There was no œdema or softening of the brain substance; the ventricles contained no excess of fluid. There was no evidence of meningitis. Both middle ears were healthy. The left branch of the pulmonary artery was completely blocked with decolourised and adherent clot, extending into its ramifications. The left lung was for the most part solid, of a deep plum-colour and firm consistence; it was in places broken down into a brownish semi-liquid material; there were also small areas in the lung substance, pale and tough, apparently of cicatrised tissue. The left ventricle of the heart was hypertrophied. The kidneys were shrunken, especially the left kidney, which weighed only 1 oz. The capsule stripped with difficulty, and the kidney substance was pale, opaque, and very tough.—Dr. KINGSTON FOWLER referred to a specimen of the same nature from an adult in the Middlesex Hospital Museum in which the longitudinal sinus and its tributary veins were blocked. In this case the whole of the centrum ovale and the cortex were studded with punctiform hæmorrhages, and Dr. Phear's case, he thought, was exceptional in the absence of such hæmorrhages. Great difficulty was found in making a diagnosis at an early stage, as many of the cases occurred in anæmic girls, and the mental condition often strongly suggested hysteria. The condition of the lung was interesting. It would be noticed that infarction was found only in the left lung, and that it was the left pulmonary artery only that was thrombosed, confirming the view (which has been opposed by some pathologists) that infarcts may be due to thrombosis of the pulmonary artery.—Dr. BERTRAM ABRAHAMS said that he was not aware that any of these cases had been previously attributed to renal disease. The causes were to be arranged in three groups: (1) septic, affecting especially the lateral sinus; (2) traumatic, as in a case quoted in which thrombosis of the cavernous sinus followed fracture of the base of the skull; and (3) a depraved condition of the blood such as occurred in anæmia, &c. It seemed to him that in this case the disease might possibly have been septic as there was breaking down of the pulmonary infarcts, and he inquired if any bacteriological examination was made of the thrombi. —Dr. PHEAR, in reply, agreed that it was usual to find hæmorrhages, even so extensive as to lead to softening, but they were searched for in vain in this case. The question of hysteria had been raised, but the sustained pyrexia excluded it. He thought that pulmonary infarcts in a slowly dying unconscious patient were very likely to become contaminated with retained septic mucus from the higher respiratory passages, and he would therefore hesitate to regard the

disease as originally septic, because septic changes were found in the infarcts. In his Goulstonian lectures Dr. Newton Pitt had referred to renal disease as having been associated with venous thrombosis in several cases.

Mr. G. H. MAKINS related a case of Œsophagotomy for the removal of an impacted tooth-plate in which cellular emphysema developed in the tissues of the neck although the pleura was not injured. The patient was a man, aged forty-eight years, and the plate, which was swallowed during sleep, had been in the gullet for four days. The position of the plate having been determined by the use of the fluorescent screen the classical operation was done at the root of the neck on the left side. During its performance dilatation of the lower angle of the wound was followed by the distension of the loose tissue of the carotid sheath with air. Beyond this when the œsophagus was opened air passed in and out of the tube with the movements of respiration, and as primary union of the wound did not occur, in consequence of the ulcerated condition of the gullet, gastric juice apparently found its way upwards, with the result of somewhat retarding the permanent closure of the wound. The first point was explained by the opening up of the subpleural tissue of the mediastinum and the entrance of air from without, which on expiration was driven into the tissues of the neck, and the second point by the patent condition of the gullet noted at the time of operation.—The PRESIDENT said that he had seen many instances in which foreign bodies after being swallowed had been arrested at the level of the cricoid cartilage. He recalled one case under the care of the late Sir William Savory in which a dental plate had been swallowed five or six days before. There was a good deal of emphysema in the neck, and diffuse cellulitis set up by the ulceration of the œsophagus. The patient died from acute blood poisoning, as in his experience most of these cases did if the plate had been impacted more than a day or two. He had seen air pass down into the anterior mediastinum outside the pleura when glands were being dissected out at the root of the neck, but the cases all did well.—Mr. PEARCE GOULD recalled a case at the Middlesex Hospital in which a tooth-plate had ulcerated through the pharynx and caused death from blood poisoning. It was most important to remember the extreme mortality connected with these cases. He remarked that Mr. Makins's case illustrated the extreme value of the Roentgen rays in detecting not only the position but the existence of the foreign body, as it was often most difficult to determine whether or not there was a foreign body in the œsophagus. He was aware of one case in which a man was supposed to have swallowed a tooth plate. A probang was passed and the plate was supposed to have passed down into the stomach, but a subsequent examination showed that it had slipped up behind the soft palate. In Mr. Makins's case the escape of gastric juice was a more remarkable complication than the emphysema, and he inquired whether it was acid or contained peptones.—Mr. MAKINS, in reply, said that he thought that the œsophagus was rarely found collapsed, at any rate in adults; and in flatulent conditions he thought that the cardiac orifice of the stomach might be patulous, and it was in this way that he explained the escape of gastric juice in his case. Unfortunately no attempt was made to analyse the fluid which escaped until very small quantities were available, but the discharge had exactly the appearance of that which escapes from gastric fistulæ.

OBSTETRICAL SOCIETY OF LONDON.

The Management of True and False Capsules in Ovariotomy.—Exhibition of Specimens.

A MEETING of this society was held on Oct. 6th, Dr. C. J CULLINGWORTH, President, being in the chair.

Mr. DORAN read a paper on the Management of True and False Capsules in Ovariotomy. He distinguished a false capsule formed of mesentery, omentum, or inflammatory deposit (Pawlik), a true anatomical capsule, which consisted of the mesosalpinx alone, and a false anatomical capsule, where the lower part of the broad ligament, the parietal peritoneum, or the parametrium was involved. The management of the first variety was simply a question of breaking down adhesions; the treatment of the second and third was a less simple matter. Mr. Doran discussed when a capsule should be cut away, when it should be let fall into the pelvis, and when it should be stitched to the lower end of the abdominal wound and drained. The first course should always be followed, if possible, when the capsule was healthy. The second was necessary when the base of the capsule was too broad to be made into a pedicle, or wherever for any other reasons no pedicle could be formed, the tissue of the capsule being healthy, and hæmorrhage under control. Fixation of the capsule and drainage were needed when hæmorrhage under similar conditions was hard to control, and in all cases where the capsule showed advanced inflammatory changes associated with suppuration of the tumour. In the latter condition oozing of serum increased the danger of septic infection. A case was related where there was free general oozing from the capsule of a large suppurating cyst. The capsule was therefore fixed to the parietes and plugged with sterilised iodoform gauze, which was removed on the third day. Thus hæmorrhage was stopped and sepsis averted. Mr. Doran discussed the advantages and dangers of iodoform plugs. He also dwelt on the prejudice of many surgeons against the practice of fixing the capsule to the wound. The danger of strangulation from a loop of intestine slipping beneath the capsule was theoretical.—Dr. EDEN asked for a fuller explanation of the difference between the true and the false anatomical capsules. A pediculated broad ligament cyst opened up the mesosalpinx, but not the lower part of the broad ligament, which remained as the pedicle, and its capsule would therefore be, according to Mr. Doran, a true anatomical capsule. But many broad ligament cysts burrowed right down into the floor of the pelvis and possessed no pedicle. According to Mr. Doran's classification the capsule of such a cyst would be true in its upper part and false in its lower part.—Dr. HERMAN thought that Mr. Doran had completely disposed of the theoretical objection to stitching the capsule to the wound.—Dr. HERBERT SPENCER agreed with all the main points of the paper, but did not think that intestinal obstruction from adhesion of intestine to the stump in ovariotomy was a rare occurrence. These cases did not go to special hospitals, but the surgeons attached to general hospitals knew that this accident was far from being a rare cause of intestinal obstruction. Cases in which the intact sac could be stitched to the abdominal wall did well with the drainage-tube, but cases in which the sac had been torn or which could not be fixed to the wound and suppurative cases should be treated by gauze drainage. He had employed iodoform gauze for the last four years with very satisfactory results. In the last three years he had only once at a laparotomy used a drainage-tube, and then it was unnecessary. He thought there was in gauze an excellent means of checking hæmorrhage, averting sepsis, and blocking out intestines from torn capsules and infected areas.—Dr. EWEN MACLEAN remarked that in addition to those mentioned in Mr. Doran's paper an ovarian tumour developed within and distending a complete ovarian sac would present a true anatomical capsule of peritoneum which did not involve either the mesosalpinx or the lower portion of the broad ligament.—After remarks by Dr. DRUMMOND ROBINSON, Mr. BUTLER-SMYTHE congratulated Mr. Doran on having introduced such an interesting discussion. His usual practice with regard to the treatment of capsules was as follows. All ordinary thin capsules would be tied and dropped into the pelvis. Where portions of the cyst wall were unavoidably left attached to the capsule, rendering it thick and likely to suppurate, the capsule would be stitched in the lower end of the wound and a glass tube inserted. In those rare cases where the broad ligaments had been enormously separated, and where adhesions had been formed high up in the abdomen previously to the enucleation of the tumour, and where a large bleeding surface was left exposed, the cavity would be plugged with iodoform gauze, which would be left in for three or four days. He had frequently seen cases of iodoform poisoning, and the first symptoms usually appeared about the fourth day and were unmistakable—rapid pulse, sudden rise of temperature, headache, giddiness, and, in severe cases, vomiting.—The PRESIDENT expressed a general concurrence with the views advocated in the paper. With regard to gauze packing he had not had a large personal experience. The removal of the gauze was so formidable a matter and was apt to produce so much distress, both bodily and mental, in the patient that he had never had recourse to it unless he was compelled. At the same time he recognised its immense value in certain cases—as, for instance, in hæmorrhage from vessels to which it was impossible to apply the ligature owing to their lying so deeply in the pelvis.—Mr. DORAN

observed, in reply, that he had discussed the anatomy of the subject at length in his article on Capsules, False and Real, in Ovariotomy, with Notes of Six Cases.[1] The complicated form of tumour, of which the President and Dr. Eden had reported cases, was Pawlik's cyst, where the broad ligament was not invaded by the new growth, but was adherent to it and stretched over its surface, the false capsule being completed by adherent omentum or mesentery. He was interested in Dr. Spencer's remarks on the frequency of intestinal obstruction caused by an old ovarian pedicle. He would like to know whether in most of these cases the raw surface of the pedicle had been left exposed or sewn over. He made a necropsy many years since on a case of obstruction where the operator had closed the raw surface by suture as a precaution against the very complication that occurred. He used the drainage-tube much less now than formerly. But he found that patients did not object to it, whilst he agreed with the President that packing and abstracting iodoform gauze often gave them great annoyance. He maintained that a pulse of 144 or 156 in a case where Mikulicz's treatment was adopted all other symptoms being favourable clearly signified iodoform poisoning. In reference to Mr. Butler-Smythe's remarks he referred to a case where he removed a large cystic myoma of the uterus. The pedicle fixed by the serre-nœud was hard to keep dry, so it was freely treated with tannin and iodoform powder. The pulse became very rapid and did not fall until the powder was discontinued.

The following specimens were exhibited:—

Dr. MCCANN: Sarcoma of the Cervix Uteri.

Dr. ROBERT WISE: (1) Abortion Sac, with hæmorrhage into the fœtal membranes; and (2) Pregnant Horn from the uterus of a cat.

Dr. JOHN PHILLIPS: Ruptured Uterus, treated by intra-peritoneal hysterectomy. The patient was in the sixth month of pregnancy and the breech presented. All attempts at artificial extraction under an anæsthetic failed. Rupture occurred during the passage of the vertex. The laceration extended from the fundus to the level of the internal os uteri on the left side. On opening the abdomen several ounces of fluid blood escaped, the uterine arteries were tied, and the torn uterus was removed. The pedicle was treated intra-peritoneally. The patient when last heard of, forty-eight hours after operation, was doing well.

Remarks were made by the PRESIDENT, Dr. GRIFFITH, Dr. HERMAN, Dr. HEYWOOD SMITH, Dr. SPENCER, and Mr. DORAN.

Reviews and Notices of Books.

Clinical Methods: a Guide to the Practical Study of Medicine. By ROBERT HUTCHISON, M.D., M.R.C.P., Demonstrator in Physiology, London Hospital Medical College; and HARRY RAINY, M.A., F.R.C.P. Edin., F.R.S. Edin., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. Messrs. Cassell and Co. 1897. Pp. 552. Price 9*s*.

THERE are so many and such excellent manuals on the same lines as this volume that it seems at first that there is no room for another. And yet we have very little doubt that this book will rapidly win for itself a large measure of success. It is fresh, terse, thoroughly up to date, and obviously the result of much practical experience in teaching on the part of both authors. An abundance of good material is crowded into the volume and the standard of accuracy maintained is very high. The first chapter, on the Method of Taking a History and the Way to Start Investigating a Case, could not be better done. Chapter II. treats of General Conditions and Appearances and is necessarily somewhat sketchy, but the student who assimilates it will have learnt a good deal. The Alimentary System and Abdomen occupy the third chapter, which is divided into six sections: mouth, pharynx, and œsophagus; abdomen; stomach; chemical investigation of stomach contents; examination of vomit; and examination of fæces. Each of these is thoroughly and fully treated, and anyone should easily be able to carry out from the descriptions the methods advised; these have been selected with much judgment. The diagrams of viscera modified from Luschka are very clear and good. The fourth chapter, on the Circulation, covers 83 pages, and is very detailed and yet very concise. The illustrations are simple and easily understood, and the text admirable. The method of percussion is thus described to a beginner: "The stroke should be delivered from the wrist and finger-joints, not from the elbow, and the percussing finger should be so bent that when the blow is delivered its terminal phalanx is at right angles to the metacarpal bone and strikes the pleximeter perpendicularly. Whenever the blow has been given the striking finger must be raised lest it should impair the vibrations it has excited, just as the hammers of a piano fall back from the wires as soon as they have been struck." Some exception may be taken to the cardinal rule the authors lay down that "in defining the boundaries between resonant and non-resonant or less resonant organs, the percussion should invariably be performed from the former towards the latter." In many, perhaps in most, cases it is wise to train the beginner to adopt both methods and to work both ways, from resonant to non-resonant and *vice versâ*. The authors adopt the more usual explanation of the presystolic murmur, and throughout are very safe to follow. To show that they are well up to date there is even a reference to Hill and Barnard's new sphygmometer, the account of which has only been published within a very short time. The clinical examination of the blood is dealt with adequately in the fifth chapter; it is short—twenty-seven pages. Methods of preparing and staining films and precise directions for mixing the stains are given. A very good coloured explanatory plate should be of great help. The sixth chapter, on Respiration, renders as intelligible as can be the various terms employed, and will be particularly useful for making more widely known Dr. Wyllie's symbols for the different abnormalities of sound, which can easily be represented on charts. In the chapter on Urine nothing is too simple or too complex to be omitted. The quantities of urine normally passed by children of various ages (from some data furnished by Dr. Still) represent a small useful point not generally referred to. The accounts of all the quantitative testings will prove refreshingly clear to those who have a horror of figures. The detection of albumins and nucleo-albumins, and the many pitfalls in testing for sugar, are lucidly described, and there is even a paragraph about Pentosuria which should satisfy the most exacting. The eighth chapter, on the Skin, is rather short, and will bear re-casting in a new edition. The Nervous System (Chapter IX.) occupies nearly 100 pages, well illustrated by old friends and new. As a whole, it is a sound introduction to the fascinations of neurology. Perhaps it is not quite adequate nowadays to say "if the upper neuron suffers damage in any of its parts the restraint on the lower neuron is diminished, the tone of the muscles is raised, and, as a consequence, what are known as the 'tendon reflexes' of the muscles become exaggerated" (p. 364). However, the authors qualify this later by reference (p. 435) to the well-known fact that in complete transverse lesions of the cord the deep reflexes below the level of injury are not exaggerated, but disappear. The description of the systematic examination of a nervous case is excellent. Chapter X., on the Eye, Ear, Nose, and Throat, and Chapter XI., on the Locomotor System, contain much that is useful, but are necessarily somewhat brief. There is a good short chapter (Chapter XI.) on the Clinical Examination of Children, and the main points of difference between the examination of a child and an adult are well brought out. The last two chapters are on the Examination of Pathological Fluid and Chemical Bacteriology; both are full of

[1] Brit. Med. Jour., April 18th, 1896.

information, and the latter gives the simplest and most precise account of Widal's test we have yet seen.

Dictionary of National Biography. Edited by SIDNEY LEE. Vol. XLIX. Robinson—Russell. London: Smith, Elder, and Co. 1897. Pp. 496. Price 15*s*.

THE most extensively-known name in the present volume of the Dictionary is undoubtedly that of the Rothschild family, the rise of which is traced from Meyer Amschel Nathan Rothschild, of Frankfurt-am-Main, who was born about 1745, and died in 1812. His third son, Nathan Meyer, who was the founder of the London branch, was sent to Manchester in 1797, settled in London in 1805, and died in 1836 while on a visit to Frankfurt. Through one of his agents, a man named Roworth, he was informed of the victory of Waterloo before anyone else in London; but the story that he himself brought the news from Waterloo and was able to open large financial transactions before it was generally known, is declared to be mythical. The Evelina Hospital for Sick Children in Southwark was named after one of his grand-daughters who died in 1866. Passing over George Romney, painter (1734–1802), William Roscoe, historian (1753–1831), and Lord John Russell, statesman (1792–1878), we come to Dante Gabriel Rossetti, painter and poet, who was born in London in 1828; his father, Gabriele Rossetti, a native of Vasto in the kingdom of Naples, came to England in 1824 and was appointed professor of Italian in King's College in 1831. Rossetti's poetic faculty was developed early. The ballad of "Sir Hugh the Heron" was written in 1840 and printed two years later; "The Blessed Damozel," "Retro me Sathanas," and other remarkable pieces were written about 1847. His collected "Poems" were published in 1870, and "Ballads and Sonnets" in 1881. From about 1870 to the end of 1881 he was addicted to the use of chloral, which ruined his health, and he died at Birchington, near Margate, in 1882. The present life of him is from the pen of Dr. Richard Garnett, who says: "Rossetti is a unique instance of an Englishman who has obtained equal celebrity as a poet and as a painter. It has been disputed in which class he stands higher; but as his mastery of the poetic art was consummate, while he failed to perfectly acquire even the grammar of painting, there should seem no reasonable doubt that his higher rank is as a poet."

The biographies of medical men are thirty-one in number. George Rogers was born in London in 1618, graduated as M.B. at Oxford University in 1642, was incorporated as M.D. in 1648, was elected a Fellow of the College of Physicians of London in 1664, was Harveian orator in 1681, treasurer in 1683–85, and president in 1688. He died in 1697. Peter Mark Roget was born in London in 1779, his father being a clergyman of Geneva. He graduated as M.D. at Edinburgh University in 1798 and travelled on the continent for some time, after which he was in 1805 appointed physician to the Manchester Infirmary and became one of the founders of the Manchester Medical School. In 1808 he removed to London where "he pursued a career of almost unexampled activity for nearly half a century." He lectured at the medical schools in Great Windmill-street and Aldersgate-street, was the first holder of the Fullerian professorship of physiology at the Royal Institution, was a founder of the Society for the Diffusion of Useful Knowledge, and wrote for its "Library of Useful Knowledge" treatises on electricity, galvanism, magnetism, and electro-magnetism. He was elected a Fellow of the Royal Society in 1815 and was secretary from 1827 to 1849. In 1831 he was elected Fellow of the Royal College of Physicians of London and delivered the Goulstonian Lecture in the following years. In 1837 and the subsequent years he took an active part in the establishment of the University of London, and was a member of the Senate until his death, which occurred in 1869. George Rolleston was born near Rotherham in 1829. He graduated at Oxford University as B.A. in 1850, M.B. in 1854, and M.D. in 1857. After becoming qualified he held a hospital appointment in Smyrna, and in 1857 was elected physician to the Radcliffe Infirmary in Oxford. In 1860 he was appointed the first Linacre professor of anatomy and physiology at Oxford and filled the chair with conspicuous ability until his death in 1881. In 1873 he delivered the Harveian Oration of the Royal College of Physicians of London. Tancred Robinson, born in Yorkshire between 1655 and 1660, graduated at Cambridge University as M.B. in 1679 and as M.D. in 1685. He was appointed Physician in Ordinary to George I., by whom he was knighted. He published numerous observations in connexion with natural history and botany, and died at an advanced age in 1748. Joseph Rogers, born in 1821, commenced medical practice in London in 1844, and in 1856 was appointed medical officer to the Strand Workhouse. "In 1868 his zeal for reform brought him into conflict with the guardians, and the President of the Poor-law Board, after an enquiry, removed him from office. In 1872 he became medical officer of the Westminster Infirmary. Here also the guardians resented his efforts at reform and suspended him; but he was reinstated by the President of the Poor-law Board, and his admirers presented him with a testimonial consisting of three pieces of plate and a cheque for £150. He was the founder, and for some time president, of the Poor-law Medical Officers' Association." He died in 1889. George Leith Roupell was born in Sussex in 1797. He studied medicine at Cambridge University, graduated M.B. in 1820, M.D. in 1825, and in 1826 was elected a Fellow of the Royal College of Physicians of London. He was censor for three years and Croonian lecturer in 1832 and 1833. In 1837 he read before the College "Some Account of a Fever prevalent in the Year 1831," for which he proposed the name "febris typhodes rubeoloida," and which seems to have been epidemic cerebro-spinal meningitis. He died from cholera in London in 1854. James Russell, born in Edinburgh in 1754, was admitted a Fellow of the Royal College of Surgeons of Edinburgh in 1777, and was president of the College in 1796–97. From 1786 onwards he gave clinical lectures in surgery until in 1803 he was appointed to "the clinical and pathological professorship of surgery," a chair founded by the town council of Edinburgh entirely in consequence of his exertions, and which he transferred to James Syme with the sanction of the Lord Advocate in 1834. He died in 1836. James Ross, born at Kingussie, Inverness-shire, in 1837, graduated at Aberdeen University as M.D. in 1864, and in 1876 was appointed pathologist to the Manchester Infirmary. In 1881 he published "A Treatise on the Diseases of the Nervous System," in two volumes, which was the first large modern text-book in English on its subject and was widely read. He was elected professor of medicine in Owens College, Manchester, in 1887, and died in 1892. Samuel Rowe, born in Cheshire in 1835, received his qualifications to practise medicine in 1856, obtained an appointment on the army medical staff in 1862, and was sent to Lagos, where he filled various offices, both administrative and medical. In 1865, while home on leave, he graduated in medicine and surgery at Aberdeen University. In 1866 he returned to West Africa and had a large share in withstanding the earlier attack of the Ashantis in 1873. In 1877 he was appointed Governor of the West Africa Settlements, and was knighted as K.C.M.G. in 1880. He died at Madeira in 1888. William Roxburgh, born in Ayrshire in 1751, graduated as M.D. at Edinburgh University and obtained an appointment in the East India Company's Madras establishment in 1776. An accomplished botanist and cultivator of useful plants, he sent hundreds of drawings to England, and in 1793 was appointed

superintendent of the Calcutta Botanic Garden. He returned to England in 1805 and died in Edinburgh in 1815 His "Hortus Bengalensis" was published in 1814, and his "Flora Indica" in 1820, 1832, and 1874. Bryan Robinson, born in 1680, graduated M.D. in 1711 at Trinity College, Dublin. He was anatomical lecturer there in 1716–17, and in 1745 was appointed professor of physic. In 1712 he was elected Fellow of the King and Queen's College of Physicians in Ireland, and was president in 1718, 1727, and 1739. He had a reputation both as a medical and a mathematical writer. He died in 1754. John Forbes Royle was born in Cawnpore in 1799 and was educated in Edinburgh. In 1819 he was placed on the medical staff of the Bengal Army and in 1823 was chosen superintendent of the garden at Saharunpore. In 1831 he returned to England and in 1837 was appointed professor of materia medica in King's College, London. He was the author of numerous valuable works on Indian plants, and also published a Manual of Materia Medica. He died in 1858.

Although George John Romanes was not a medical man, it seems right to include his biography among the present excerpts on account of his eminence as a biologist. He was born in Canada in 1848 and was brought to England at an early age. From 1874 to 1876 he studied under Professor Burdon Sanderson in the physiological laboratory at University College. Researches by him on the influence of injury on the excitability of motor nerves and investigations on the nervous and locomotor systems of the medusæ and the echinodermata were subsequently communicated to the Royal Society, and he was elected a Fellow of the Society in 1879. He died at Oxford in 1894. In addition to the papers already mentioned his works included treatises on mental evolution, organic evolution, and Darwinism, some of them not being published till after his death.

LIBRARY TABLE.

Elements of Human Physiology. By ERNEST H. STARLING, M.D. Lond., Joint Lecturer on Physiology at Guy's Hospital. Third edition. London: J. & A. Churchill. 1897. Price 7*s.* 6*d.*—We have already had occasion to notice with praise this manual, written by a physiologist who has been for some time past engaged in teaching physiology in a large medical school in the metropolis and who is therefore well qualified to judge of the requirements of the medical student and of the amount and kind of physiological knowledge that will prove most serviceable in practice. The present edition differs but little from its predecessors and is not overburdened with details in regard to the construction of scientific instruments, a knowledge of which is of little value to the student. The more important facts in the sections devoted to each of the functions of the body are given clearly and well and the work as a whole is well up to date. As an evidence of this we may refer to the chapter devoted to the subject of the coagulation of the blood, in which the recent views of Hammarsten are given. The danger of all manuals is that of increase of size by the interpolation of new matter. It is satisfactory to find that Dr. Starling has resisted this temptation and that the present only exceeds the preceding edition by about a dozen pages. The work may be regarded as one of the best of those which seek to compress the wide subject of physiology into a reasonable compass. Fourteen fresh woodcuts have been introduced.

Diseases of the Eye, a Practical Handbook for the use of General Practitioners and Students. By CECIL EDWARD SHAW, M.D., M.Ch. R.U.I., Ophthalmic Surgeon to the Ulster Hospital for Children and Women, Belfast. With Illustrations and a Test Card for Colour Blindness. London: J. & A. Churchill. Pp. 103.—This short treatise is intended by the author to furnish the general practitioner and the student with a concise account of the principal forms of ophthalmic disease which they are likely to meet with in practice. The descriptions of disease are sufficiently clear and accurate, and the author has, we think, done wisely in not burdening his book with the details of ophthalmoscopy which can only be learned in the out-patient room or in the wards of a hospital or with an account of operations which are only undertaken by those who are devoting themselves to ophthalmic practice and have at hand the appropriate instruments in good order. An exception is made in regard to the operation for the extraction of cataract, and an observation is added to the account given to the effect that many surgeons now omit the iridectomy when removing cataract, the advantage being that it simplifies the operation and gives a better pupil; but in England the consensus of opinion is still in favour of doing iridectomy as the safer method. The modes of determining errors of refraction are given in some detail and are intelligible to any student.

The Mathematical Psychology of Gratry and Boole Translated from the Language of the Higher Calculus into that of Elementary Geometry. By MARY EVEREST BOOLE. London: Swan Sonnenschein and Co., Limited. New York: G. P. Putnam's Sons. 1897. Pp. 116. Price 3*s.*—Lovers of abstract speculation will find much to interest them in this little book, which is a kind of primer or introduction to the generalisations contained in the "Laws of Thought" published in 1854 by the late Mr. Boole, Professor of Mathematics in Queen's College, Cork, as well as to those contained in the earlier work "Logique," written by M. Gratry. Its merits, however, are somewhat impaired by the circumstance that the gifted authoress has presented the elements of the mathematical part in a manner so very concise that a psychologist unacquainted with mathematics might be pardoned if he fell into the error of supposing that the differential calculus is as hazy and indeterminate as some portions of his special subject. The dedication to Dr. Maudsley shows that the infinitesimal calculus is the process chiefly in question, but Mrs. Boole's explanation of it is mainly a diagram of a differential parallelogram together with the tangent to a curve. Not many pages would, however, have been required both for showing the process of differentiation of a few selected expressions, and also for giving some simple examples of the results obtained by its aid in particular instances, such as in the drawing of tangents to parabolas of the second or third order, or in finding the maximum rectangle that can be inscribed in an equilateral triangle. Psychologically, the resultants (i.e., the diagonals) of parallelograms of forces are to be interpreted as the necessary compromises of conflicting views and interests in the ordinary affairs of life (p. 34), and the circumstance that the evanescent differentials of a mathematical function have a definite ratio to one another is to be understood as follows (p. 46): "For those who are seeking from the calculus information about human psychology it is a fact of overwhelming importance that the special knowledge about the curve which is to be got by means of the varying ratio between two fictitious elements comes only at the moment when these elements vanish; i.e. when the subject matter which has been under investigation vanishes to No-Thing." The most practical part of the book is perhaps Chapter VII., which treats of the method of drawing inferences from antagonistic arguments. The facetious puerilities introduced into the description of a fluxion should be omitted in a future edition.

The Law of District and Parish Councils. By JOHN LITHIBY, LL.B. London: Effingham Wilson and Sweet and Maxwell. Second edition. Price 15*s.*—We drew attention to this book and expressed a warm appreciation of Mr. Lithiby's work when the first edition

appeared. That is now three years ago, and the interval affords full justification for a second edition of the work. The changes in the law are not, however, very momentous, and it can hardly be matter of surprise that the editor of these statutes has taken somewhat easily the task of preparing a second edition. The result, however, is a little disappointing, for although the new matter is to be found by those who search for it within the book it is not always to be found where it should be. To take an illustration of what we mean. On page 69 the qualifications of parish councillors are set out from the Act of 1894 and comprise *inter alia* a twelve months' residence. On page 396 the amending Act of 1897 is set out, and shows that this particular qualification has been abolished in the case of candidates who enter into residence before March 25th in any year. The amendment has not, however, been incorporated in the notes to the earlier statute and Mr. Lithiby's text in one place is therefore misleading. The book is a great repertory of information, but the impression which it leaves upon our mind is that it would be greatly improved by careful re-editing.

Liza of Lambeth. By W. SOMERSET MAUGHAM. London: T. Fisher Unwin. Price 3*s.* 6*d.* — The author of this powerful if somewhat sombre work is, the publisher informs us, a medical man. He certainly has one valuable quality for one in his profession—namely, the gift of observation — and another equally valuable, though not so common, literary skill. The story inevitably invites comparison with Mr. Morison's "Child of the Jago," which deals with a similar class of society, and though not so much of a "story" is to our minds superior in that it avoids the somewhat Dickens-like pathos which is the blemish of Mr. Morison's otherwise excellent book. Mr. Maugham's picture of life among the poor is not a pleasant one, though wonderfully graphic, neither do we mean to contend that all the poor are like his characters. But that there are such among the lower classes no one who has ever done any work among them will deny for a moment. The way in which the women talk about their children, the number of "misses" they have had, the ghoul-like pleasure they take in funerals and deaths, are all admirably described, and the scene at Liza's death-bed, where her mother discourses to a select circle of friends upon the difficulty she and her neighbours had in getting her husband into his coffin, is true to the life. The animal-like wooing of Jim and the death of Liza are the two most powerful scenes in the book, but should Mr. Maugham write another book—and we hope he will—he might choose a somewhat less sordid subject.

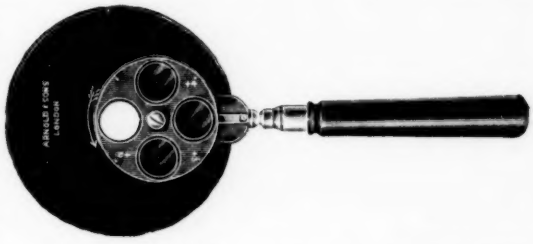
JOURNALS AND REVIEWS.

IN the October number of the *Phonographic Record* Dr. Griffiths narrates a case of rheumatism followed by pericarditis and double pneumonia in which oxygen inhalations are said to have averted death, and Mr. Norman Porritt discusses the action of the coal tar derivatives. He regards the effect of this class of bodies upon the hæmoglobin as the explanation of their toxic action. We learn from this number that Sir William Gowers has been elected Patron of the National Federation of Shorthand Writers' Associations in place of the late Sir Isaac Pitman, and that the Society of Medical Phonographers intends to entertain him at dinner to congratulate him upon the honour which Her Majesty the Queen has recently conferred upon him.

New Inventions.

NEW AURAL AND THROAT MIRROR.

WITH this mirror an enlarged, well illuminated, and distinct view of the tympanum may be obtained. It is a concave mirror three inches in diameter with a sight hole of 15 mm. and having a focal distance of about seven inches. A rotary disc at the back carries three lenses, + 2 D, + 3 D, + 4 D, which in turn can be moved opposite the central

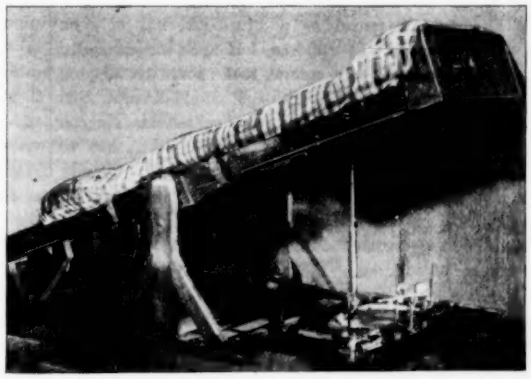


hole. The best results may be had by holding the mirror about midway between the eye and the object. If the observer be presbyopic he can use the mirror in the usual manner, selecting the lens which suits him. Messrs. Arnold and Sons, West Smithfield, E.C., are the makers.

THOS A. GOODCHILD, L.R.C.P., L.R.C.S. Irel.
Queen's-road, N.E.

A MOVING BED.

AN ingenious method of communicating a gentle rhythmic movement to a bed has been invented by Mr. Walker, Hartwood, West Calder, N.B. It is so designed as to be easily adapted for use either in public hospitals or in private houses. The bed is fixed at its centre, and by means of hydraulic machinery of simple construction and noiseless action the head is alternately raised and lowered, so as to give the bed a gentle movement upwards and downwards. The accompanying illustration gives a good idea of the whole arrangement. The bed was for some time in operation in the Edinburgh Royal Infirmary, where, through the kindness



of Sir Thomas Grainger Stewart, many members of the medical profession have been enabled to witness its effects. In many neurotic affections it has been found to produce beneficial results, more particularly in cases of insomnia and restlessness. It has, moreover, been of use in digestive, circulatory, and respiratory troubles.

THE LANCET.

LONDON: SATURDAY, OCTOBER 16, 1897.

IT is probable that only a few of those who are practising medicine, and scarcely any of the laity, are aware of the distress and annoyance that are occasioned by the introduction of any one of the group of diseases which are collectively termed ophthalmia into a school or asylum. Those, however, who are in charge of such institutions know only too well that to effect a cure in the patients unremitting attention is required, extending over many days or weeks, and that the most persistent and carefully considered measures often fail to prevent the disease from spreading to those who occupy the same dwelling-rooms or who use the same lavatories. When once a certain form of the disease has gained a firm footing in a colony of children years often elapse before it can be regarded as eradicated, whilst impairment of vision of a more or less serious nature is a very common result in those who have been affected. Such cases, it has been justly remarked, whilst they interfere with discipline and interrupt education, seriously handicap the victims in their struggle for existence. Their wage-earning value is reduced. The chances of a relapse into pauperism are multiplied, and there is always a risk that the disease may be communicated to those with whom they are brought into contact. Owing probably to the frequency with which their attention is directed to ophthalmic disease and the expenses which an outbreak entails, the Local Government Board recently directed an experienced and able ophthalmic surgeon, Mr. SYDNEY STEPHENSON, to investigate the ophthalmic state of Poor-law children, with the result that that gentleman has inspected a large number of schools and asylums, and has written a very valuable Report, just issued as a Blue-book, not only on the present state of the children, but upon the causes of the prevalence and the measures that should be adopted to diminish or altogether abolish ophthalmic disease. The report is worthy of perusal by every ophthalmic surgeon as well as by the matrons and other officers attached to large schools; and great praise is due to Mr. STEPHENSON for the very painstaking manner in which he has conducted his inquiries and for the sound, practical, common-sense remarks and suggestions that are to be found on every page. The number of children he has examined is 17,002, of whom 860 were under two years of age. The ophthalmic affections which commonly present themselves in schools and asylums are acute and chronic ophthalmia with their effects, and blepharitis, the last-named disease, though chronic, being comparatively unimportant. The acute ophthalmias are divisible into muco-purulent and purulent. It is gratifying to find that acute purulent ophthalmia is practically absent, although 860 were, as just stated, only infants. Muco-purulent ophthalmia or blight, on the other hand, is not uncommon, existing in 4·72 per cent. of the total number of children examined. This affection occasionally appears in the form of an epidemic, associated probably with certain atmospheric conditions, but does not last long, and even when not subjected to treatment does not produce any serious or permanent lesion of the eye. The chronic and by far the most important forms of disease which are prevalent in schools are follicular ophthalmia and trachoma. Mr. STEPHENSON has arrived at very positive conclusions in regard to the follicular disease, and his large experience gives great weight to his opinion. The disputed question on which so many essays have been written both at home and on the continent as to the identity of purulent, follicular, and military or Egyptian ophthalmia with trachoma, it is now pretty clear, is to be decided in the negative. Purulent ophthalmia has its own micrococcus and does not constitute a stage, as some have thought, of trachoma. Follicular disease has also in all probability its own specific virus. It is exceedingly common among children and is usually regarded as associated with overcrowding and vitiated and damp air. Mr. STEPHENSON, however, is not satisfied on this point and does not consider sufficient evidence is forthcoming to demonstrate that it is the outcome of an unhealthy environment. It was present in 2·24 per cent. of 10,967 children examined in the district and separate schools. Trachoma—the "granular lids" of many English writers—is the real scourge. It is a separate affection and also probably has a microbe of its own. The supposed transition of follicular disease into trachoma has arisen, it is thought, from children with follicular disease being placed in wards with trachomatous children, from whom they have contracted that infectious disease. Trachoma, then, remains as the most important of all the forms of ophthalmia affecting schools and asylums. Insidious in its origin and progress, revealing itself in its early stages only to careful examination, it is very persistent, leads in most instances to haziness of the cornea, and not infrequently to loss of useful vision; it has the obnoxious quality of being highly infectious. Amongst the 17,002 children examined no less than 973 cases of trachoma were found, very few instances, however, occurring in the children under two years of age. Lesions of a more or less serious nature of the cornea were found in 277 cases, the ill-effects ranging from slight impairment of vision to almost complete blindness. The institutions visited by Mr. STEPHENSON were separate schools or those belonging to a particular parish, district schools which receive children from more than one union or parish, Roman Catholic certified schools, the training ship *Exmouth*, the Ophthalmic School at Hanwell, the certified convalescent homes, and, lastly, the metropolitan infirmaries and workhouses. It is noticeable that not a single separate school was free from trachoma, the number of cases varying from 1·63 to 13·15 per cent. of the inmates, the average being 4·60 per cent. In the district schools 3·65 per cent. were suffering from active trachoma and 1·37 per cent. bore traces of having formerly suffered from it. In the workhouses the proportion was 6·41 per cent.; in the infirmaries, 5·60 per cent.; in the Roman Catholic certified schools, 7·48 per cent.; and in the *Exmouth*, 0·84 per cent. Long experience and the visitations of many institutions

have enabled Mr. STEPHENSON to discover weak points in their construction and management that might easily pass unnoticed, but which have an important influence on the propagation of ophthalmic disease. Details are given in the report in regard to the warming, ventilation, and the supply of light to the school and other rooms, to the disposition of the closets and lavatories in regard to other apartments and their drainage, the size and cleanliness of the baths, the supply of towels, the storage of clothes, and many other particulars, all of which are now carefully inquired into by an excellent board of inspectors.

The most valuable portion of the report is that containing suggestions with regard to the stamping out of trachoma. The two principles on which Mr. STEPHENSON proceeds are exclusion and eradication. In regard to the first, he considers that before any children are admitted, however healthy they may appear to be, they should be subjected to careful and skilled medical inspection and they should undergo a period of probation in some school specially set aside for the purpose. Such a proceeding would materially contribute to the abolition of trachoma by preventing its admission and the possibility of its being grafted on follicular ophthalmia. Where trachoma has unfortunately gained a footing its eradication must be attempted by isolating the affected children and placing them under the best conditions for recovery in a central school where they may be properly classified and specially treated whilst they continue their education. Periodical inspections of all the schools should be made by experts so that the affected may be weeded out without loss of time. Indirect means for the suppression of disease should not be omitted, such as attention to washing and bathing when contagion most easily occurs, and the improvement of all conditions of environment, any defects in which tend to weaken the individual and lower his power of resistance, such as defects in ventilation, floor and cubic space, warming, food, exercise, clothing, and drainage. Attention to these particulars, it may reasonably be anticipated, will greatly diminish, if it does not completely exterminate, this scourge of large schools, and we may hope that in a few years, as the public mind becomes more enlightened on the subject, the severe strictures which Mr. STEPHENSON has found himself compelled to make on the hygienic conditions that surround the Poor-law children will no longer be applicable and that chronic ophthalmia will be a thing of the past.

The case of the *Exmouth* training ship which succeeded the *Goliath* demonstrates the utility of preventive measures. A correspondent in describing in our columns in 1874 the condition of the *Goliath* pointed out the danger of the mode in which the washing of the boys was conducted, and shortly afterwards Mr. NETTLESHIP found more than one-third of the boys suffering from granular lids. By adopting wise preventive measures the proportion of cases of trachoma has now fallen to less than 1 per cent. The conclusion is obvious.

BIRMINGHAM, with its half a million of people, its large medical charities, and its citizens of municipal and even Imperial fame, well deserves the attention which has been given to it by our Special Commissioner, whose four papers on Hospital Abuse as illustrated in that city will interest all students of that subject. Thirty years ago some of the first suggestions in favour of an improvement in club practice and the remuneration for it came from a Birmingham practitioner, Mr. HESLOP. The provision for medical relief under the Poor-law in Birmingham is of the stateliest kind. Its hospitals and dispensaries are so attractive that not less than one-third of its inhabitants in the year become hospital patients. The late Mr. SAMPSON GAMGEE brought the organisation of the Hospital Saturday Fund to such perfection that the contributions of the workmen exceed those of the wealthy. For every £100 subscribed more than £200 are received in registration fees. Such substantial contributions entitle the workmen to a powerful voice in the management of the charities, and our Special Commissioner makes the startling statement that there is hardly a hospital in the town which would not be bankrupt if the workmen withdrew their support. The working classes are naturally proud of their contributions, and the governors of the different institutions are only too willing to meet their natural pride by every concession that they can make to their views. One significant little fact is recorded by our Commissioner. One of the medical institutions which is said to be most abused in Birmingham is the General Dispensary. The Hospital Saturday Fund makes a large contribution to this dispensary—something like £600 a year. By way of return for this sum and other sums accruing from the purchase of tickets—for extra tickets may be bought for 4*s.* at the time of illness—the committee of the Birmingham General Dispensary some years ago resolved to omit from the letters supplied to workmen's societies, &c., the words "object of charity," leaving it to be understood that the medical service rendered was really paid for as it might be in a provident dispensary and that the person receiving it was under no charitable obligation to the institution or its medical officers. Naturally, a large proportion of the patients treated at this dispensary are comfortable people, well able to pay reasonable remuneration to a medical man. It was ascertained that 25 per cent. of the patients at one of the branches were in receipt of £100 a year. Needless to say that the same abuse has been shown by our Commissioner to obtain in the general hospitals and in the Eye Hospital and institutions that receive large contributions from the Hospital Saturday Fund and further sums in the shape of registration fees The working of the system is shown in many cases. Men with large incomes saved by thrift and industry see their less provident friends get all they want at the hospitals and wonder why they should be expected to pay the ordinary fees—and so they get their cataracts extracted and other operations performed for nothing too.

It must not be supposed that this great change in the conception of hospitals and dispensaries is still quite complete. There are still men who realise that the contributions of the workmen to the charities by which they are so much benefited are essentially free gifts for the good of others rather than themselves. They were asked for originally by Mr. SAMPSON GAMGEE, as they are asked for now by Hospital Saturday and Sunday funds, as helps to enable the managers of hospitals to meet urgent cases of sickness and accident. Alderman COOKE, chairman of the Hospital

Saturday Fund, said emphatically to our Commissioner: "A subscription to a fund, whether it be weekly or yearly, gives no right whatever. If a man or woman presents himself or herself at a hospital and demands treatment as a right bought by a subscription to the Hospital Saturday Fund he or she takes an absolutely unjustifiable position. The subscription carries with it no right; the princely gift of so many thousands per annum carries with it no equivalent. It is a free gift to the free work of the medical charities of the town."

We cannot too strongly endorse and enforce the view laid down so clearly by Alderman COOKE. If it is not shared by the workmen of Birmingham who give so generously to the charities we are persuaded that it is due to a misunderstanding of the very nature and origin of the institutions which they support. Let us illustrate our argument by a London case. It is well known that a London employer of labour has lately placed £120,000 or more at the service of a London hospital and all men recognise the generosity of the gift. But what would be the change in the public view of it if this gentleman had accompanied it with the conditions that he and his family, his workmen, his servants, and his employés generally had to be treated in all their ailments in consideration of his gift? The gift would be robbed of all its grace and its virtue and the giver would be little thanked. It is not otherwise with the systematic and generous contributions of the workmen of Birmingham to her charities. They are very fine so long as they are given for the use of the institutions as originally defined, but they bear a very different aspect if they are used to turn these institutions into cheap dispensaries for ordinary cases. Yet it is said that Mr. SMEDLEY, a man of wealth and strong humanitarian feelings, who is, we presume, in succession to Mr. SAMPSON GAMGEE, the great promoter of Hospital Saturday, regards the Hospital Saturday Fund as favouring the idea that the hospitals are provident clubs. He admits the great abuse of the out-patient department, but, contrary to the opinion of the great majority of medical men, he does not recognise any serious abuse of hospitals in the sense of their being frequented by numerous patients who can afford to pay private practitioners. The great point is to determine whether hospitals and dispensaries are for those who are in work and for their ordinary ailments or only for the poor and for those in exceptional circumstances of disease or accident? To judge from the tenour of our Commissioner's reports the Hospital Saturday Fund is being used so as to convert the medical attendance on those who contribute to it into a huge charity, much as that word is disliked. It is not even a provident arrangement, for that would attempt to pay the medical men concerned more or less adequately. It is a huge and somewhat shabby device to get medical attendance without paying for it in the same honest sense in which a British working man pays for his bread and his beer.

We wish we could see in our Commissioner's account proof of any serious realisation of the plight in which the profession is left by such a misuse of hospitals or of any adequate effort to grapple with the situation. Birmingham has great notions of the power of municipalisation; but is the medical profession to be municipalised out of its position and its function? Are the duties of half a million people to the medical profession to be discharged by charitable contributions and petty registration fees to hospitals? Is the profession on this subject to be divided into two hostile parties—one seeing itself magnified by the hospital system and the other seeing itself degraded or extinguished? Our brethren in Birmingham have a great opportunity of solving some great questions; but unless more unity and decision are shown than have yet appeared the profession will be given away by those who ought to lead and uphold it.

THE most important subjects dealt with under the section of public health and local administration in the annual report of the Local Government Board are the working of the Sale of Food and Drugs Act, and the efficiency of the metropolitan water-supply. The urgency of all the questions implied under the consideration of these branches of public administration increases, and the material before us in the twenty-sixth report which has just been issued has increased in proportion, so that we shall make no attempt to deal now with the immense Blue-book as a whole, but shall limit our remarks at present to a review of the working of the Sale of Food and Drugs Act.

With reference to the working of this Act the twenty-sixth report is of special interest because in the statistics therein recorded a series of twenty years is completed, and therefore an approximate measure may be made of the real work that the Act is effecting in connexion with the suppression of food adulteration. To us the interest in this fact is intensified when we reflect that the Sale of Food and Drugs Act had its origin in the fearless exposure of gross adulteration and fraud which the Founder of THE LANCET brought to light at a time when legislation exercised absolutely no control in this matter. Adulteration in the days of THE LANCET Analytical Sanitary Commission was not only a species of fraud upon the public, but, as was shown, a positive danger to the public health. Slow as is the reduction year by year of the total number of adulterated samples, yet the fact remains that this number has steadily declined during the last twenty years, so that while in the year 1877, when the results of the analysis were for the first time tabulated, 19·2 per cent. were condemned the proportion has fallen to a little over 9 per cent in the official year just closed. As to the injurious forms of adulteration in vogue thirty or forty years ago, they have "almost, if not entirely, disappeared." While it is, on the whole, true to say that the public are now cheated rather than poisoned, yet there should be no reason why the extent of this cheating should not be further reduced. This can be done even under the provisions of the present Act, but more vigilance on the part of the authorities entrusted with the working of the Acts will have to be exercised. Abundant evidence on this point is afforded by the fact that where more active measures have been taker, especially in increasing the number of samples submitted for analysis, the proportion of those reported against has gradually declined. This is well illustrated in the case of the district of St. Mary Newington, where no action whatever had been taken under the Acts up to the end of 1887. In the following six years samples were taken at the rate of thirty-three per annum, and over a third of

them proved to be adulterated. In 1894 the percentage of adulterated samples amounted to 30. In the following years the authorities instructed their officers to take over 1000 samples, and legal proceedings were instituted where an offence had been committed, with the result that in 1896 the proportion of condemned samples was brought down to 11 per cent. We have often reflected upon the neglect of the authorities to avail themselves of the powers they possess, and our views in this regard are now fully justified in the instances just quoted. Again, nothing could be more absurd than the extraordinary leniency shown by magistrates towards offenders in regard to fines. Especially is this so in the case of milk and spirits. The fines in some cases were so trifling that it was clear to the blindest that it would pay an offender to adulterate his wares again and again during the year and undergo the resulting legal punishment, so big was the price which he got for the added water and so trifling were the fines exacted from him. We would have these shabby rogues dealt with in the salutary way suggested in the recommendations of the new Bill—that is to say, we would have published as widely as possible *and at the expense of the offender* the fact of his committal for fraudulent practice, and in some instances, so serious do we hold the offence of adulteration, justice would not be overdone if the premises of the offending person were placarded with a full advertisement making a similar announcement.

London still leads the way in regard to the extent of milk adulteration, the proportion of watered samples being 17·7 per cent., as against 9·1 for the rest of the country. The Local Government Board regard this as a matter for regret, and so do we. And why is it so? For the simple reason that a standard of unimpoverished milk has not yet been fixed by statute. The fact that milk of the poorest possible quality is regarded as genuine gives the unscrupulous milkman the easy device of watering milk of good rich quality down to zero. The London milkmen are ever on the watch to catch the authorities sleeping since it has been found that on taking samples of milk on Sunday no less than 47½ per cent. in one instance were found to be adulterated. But "as soon as the local authorities seriously take the matter in hand the Sunday rate of milk adulteration is reduced." Here is another practical lesson that increased vigilance on the part of the authorities is largely, though not entirely, what is required. The Act even in its present form would have presented but a few objections had not the local authorities in so many instances failed to perform their duty. As it is, the extent of adulteration has been reduced to 9·2 per cent., which is the lowest figure yet attained.

The working, therefore, of the Sale of Food and Drugs Act has not been without satisfactory results, and we confidently anticipate that with the new modifications of the present Act, which a new Bill will embody, the public will have a still stronger guarantee of being supplied not only with unadulterated food but with food of a desirable standard of purity and quality. It is curious that the highest percentage of adulteration recorded during the past year has been for spirits, which is the only article for which a standard of strength has been legally fixed. In many instances the proportion of water was so large as to make the selling of the mixture exceedingly profitable. Some people have tried to justify the publican in selling diluted spirits on the plea that he is selling a much less intoxicating mixture than the Act would compel him to sell. Such an argument is utterly beside the point at issue. Whisky (for instance) is one price, and water quite another, and when the purchaser pays for the former the vendor has no right to give him the latter. There are other points in the report with which we have not space to deal, but in the main they relate to those defects in the present Act which we hope will be removed in the new Bill, the recommendations in which were drawn up in a report by the Select Committee on Food Products Adulteration in July last. The Local Government Board report observes that "many importants amendments to the law are recommended, and we have under consideration the question of promoting legislation on the subject." The pressure of public business however was the excuse of the leader of the House of Commons for not dealing with the Bill last session, but we trust that it will be considered at an early stage when Parliament reassembles.

MR. VICTOR HORSLEY has been elected a Direct Representative for England and Wales by a substantial majority over his only serious opponent, Sir WALTER FOSTER. The profession must wait until the day fixed for the declaration of the poll for all the exact figures in a contest which, in the personalities of the candidates and in its importance for the future of direct representation, has been one of real interest and importance to the whole profession. It would be premature to enlarge upon these details at the present moment, but we need not defer the expression of our great satisfaction at Mr. HORSLEY'S election, inasmuch as we have favoured his cause from the beginning of the contest into which the profession was so unexpectedly thrown by the resignation of Dr. R. R. RENTOUL. The event will immediately restore some of the lost prestige of direct representation. Mr. HORSLEY'S ardour of temperament and strong opinions in regard to the defects of the Medical Acts and to the imperfect use of them by the General Medical Council are well known, and these perhaps will lead some to fear that in the discussions which he will invite his zeal may outrun his discretion. We do not think so. Not only the responsibilities of office but also the very sincerity with which he wishes to procure reasonable reforms will moderate the pace with which Mr. HORSLEY will seek to urge the Council to adopt his ideas. The General Medical Council is a body capable of great resistance. It will be strengthened by the presence of a member with strong convictions of the necessity for more actively asserting its functions, and we do not believe that it will blindly refuse to listen to reasonable arguments in support of such a view, or, if necessary, in support of a demand for larger powers than it at present possesses. But the Council cannot be "rushed." If a reform programme is to find supporters in the Council it must be presented by men who are perfectly clear and convinced in their own minds, and can preserve their own consistency. The strength of Mr. HORSLEY'S position is that while standing as a surgeon high in the world of science, and

having only the smallest personal interest in any action of the Council or in any alteration of the Medical Acts, he has shown for years the greatest possible interest in all matters which affect the rank and file of the profession. He is, besides, in virtue of his position familiar with the latest aspects of medical education, and so will be in a position to take a useful part in promoting those improvements in teaching and in examinations which the reports of the Council's inspectors show to be so much needed. On all these grounds we rejoice to record the success of Mr. HORSLEY in this important by-election. His conduct during the contest has been perfect in temper and in argument. He paid the electors the compliment of avoiding all claptrap, all humiliating alliances and concessions, and of discussing the most delicate subjects with gravity and moderation. We also congratulate the profession on their choice. Their Direct Representatives, if they are to be of any use, must be men of high character and standing; and they have chosen such a man. Sir WALTER FOSTER will not, we trust, be much discouraged by losing the battle, for certain of his supporters may take most of the blame. He found Mr. HORSLEY in the field and well advanced in the contest. It would have been more gracious to have recognised Mr. HORSLEY'S claims and to have given the profession the advantage and the pleasure of an uncontested election; but he decided otherwise, and has the satisfaction of having been beaten by no mean opponent.

Annotations.

"Ne quid nimis."

"VACCINATION" AGAINST TYPHOID FEVER.

AT a time when public attention is so strongly drawn to typhoid fever by the epidemic at Maidstone and the sensational notices on the "posters" of the evening papers it may be well to remind medical men of certain points in regard to the means by which the contagion is spread and the prophylactic measures which may be adopted. A contaminated water-supply has been so much discussed in relation to the Maidstone epidemic that we need not enter further into that part of the subject; a thorough treatment of the stools by means of disinfectants such as carbolic acid and perchloride of mercury is also adopted as an ordinary routine measure; similar precautions as regards the urine, however, are not usually taken, but as the pathogenic bacilli have been found in the urine of patients suffering from typhoid fever the suitable disposal of all the patient's excreta should be carefully superintended. Numerous papers have been published from time to time demonstrating the spread of the infection by milk, vegetables (notably watercress), oysters, &c., and we need not comment further on similar possible channels of infection. We have received a letter from Dr. A. E. Wright, Professor of Pathology at the Army Medical School, Netley, reminding us of a paper published by himself and Surgeon-Major D. Semple, Assistant Professor of Pathology at the same school.[1] In this communication the writers detailed the results of experiments which they had made with anti-typhoid "vaccines." Most of the "vaccinations" were performed upon medical officers of the Army or Indian Medical Services, or upon surgeons on probation who were preparing to enter those services, so that the results were carefully observed. Very severe and unpleasant symptoms were experienced after the inoculations, but in Dr. Wright's letter to us, dated Oct. 6th, he informs us that the subsequent hours of misery and constitutional disturbances have now been reduced to a minimum by further experiments, and now all that is felt is a few hours' discomfort and a little local soreness, and equally good results in the blood are obtained with the diminished doses. The experiments showed that the patient's blood contains some substance which, although the bacilli of typhoid fever are not killed by it, yet exerts such a deleterious influence on them as results in the effectual protection of the patient against typhoid fever. Dr. Wright also wishes us to make public the fact that the resources of his laboratory have been placed at the disposal of the Maidstone authorities, by permission of the Director-General, Army Medical Service, and Surgeon-Major Semple has proceeded to the town with an ample supply of the "vaccine," enough for the whole population of Maidstone. The result of this proceeding will be watched with interest. We would take this opportunity also of protesting against the general public alarm which may accrue from statements made in the daily papers as regards the prevalence of typhoid fever in London and elsewhere. At this time of the year there is always an increase of this fever, and at the present time the numbers are not in excess of the average. The public should know that typhoid fever is not infectious in the same way as scarlet fever and measles, and that if frequent analyses of the water-supply are made and the excreta are disinfected no widespread diffusion of the disease need be feared.

[1] Brit. Med. Jour., Jan. 30th, 1897.

THE "SPECTATOR" ON THE MEDICAL PROFESSION.

A WRITER in the *Spectator* has been thrown into some confusion by the Maidstone epidemic and led to express some doubts as to the "supposed capacity of science to deal with the problem of disease." To see hundreds of the inhabitants of a small, pleasant country town, with no deleterious local industry, with every condition favourable to health, within easy reach of the world's greatest city with all its manifold scientific agencies, stricken down by one of the most insidious diseases seems to stagger our excellent contemporary's faith in medicine. The writer quotes a very eminent man of science as saying—what he would not dare to say himself—"that three-fourths of medical science is little more than pure quackery." Surely this is rather a superficial and unscientific view of a great public calamity, and one which leads to putting the saddle on the wrong horse. Science, medical science, has taught for years that if communities do not protect their water-supply from contamination they will pay for it in three most definite forms—diarrhœa, cholera, and typhoid fever. This is an enormous lesson taught by science—by medical science—attention to which would have saved Maidstone from this calamity. Science in one sense will never go further, even in the pleasantest country town or in the greatest city with the greatest number of wise men in it. Science will not alter the properties of the typhoid poison, any more than it will alter the property of arsenic or of opium. The great thing is to avoid swallowing such things, and this requires only a little extra expenditure of money and of care on the part of communities and a little less selfishness on the part of water companies. Surely a comfortable community of 30,000 people at the end of the nineteenth century might be expected to take such obvious precautions for their own safety without troubling either Providence or the Local Government Board. We are sure that our contemporary will not on due consideration find any serious ground in the sad experience of Maidstone for reflecting on medical science, which really lights up the whole subject, dictates measures for public safety, and conducts

individual cases skilfully back to health. We are the more assured of this when we turn over a few pages of the same paper and find a most appreciative article on Sir J. Crichton-Browne's introductory lecture, eulogising especially the cheerfulness of the medical profession. The praise is just. Dr. Johnson said of Dr. Mead that he lived more in the broad sunshine of life than any man he ever knew; and the same holds of all true disciples of Æsculapius. They bring hope and relief. They "obviate" as Cullen said "the tendency to death." They eliminate disease on a large scale altogether from the employments and homes of men, and where they do not altogether succeed they fight it bravely when it comes. That they are successful in a large degree is shown by their very cheerfulness. If success were not their ordinary experience they would be of all men most miserable. And notoriously, as Sir J. Crichton-Browne says, and as our contemporary agreeing with him says, the contrary is the case.

THE PLAGUE IN BOMBAY FROM A FRENCH POINT OF VIEW.

DR. BONNEAU, medical officer of the first class in the French Colonial Service, who was deputed by the Governor of the French Possessions in India to make a study of the outbreak of plague at Bombay, has embodied the fruits of his mission in a lucid and instructive article which appears in the *Archives de Médecine Navale et Coloniale* for September. With regard to the genesis of the epidemic this writer comes to no positive conclusion. "It is certain," he says, "that the first cases occurred in a densely populated native quarter where the merchandise of the entire world is heaped up in the greatest profusion, awaiting distribution either by means of exportation or else internally to meet the industrial and commercial requirements of the country itself. The produce of China is there stored side by side with the cereals from Northern India. Was the disease imported from Hong-Kong, or did it travel with the wheat from the sub-Himalayan districts? This is a question that will probably remain unanswered." Certain observers have found an argument in favour of the Himalayan origin of the pestilence in the enormous mortality that took place among the rats infesting the go-downs where the wheat was lying, but Dr. Bonneau very effectively disposes of this theory by remarking that if more rats died there than elsewhere it was simply because they existed in greater number. The plague at first advanced slowly and insidiously, taking a long time to, as it were, put forth its roots, and Dr. Bonneau is quite satisfied that if energetic repressive measures had been adopted soon enough it could easily have been stamped out. Unfortunately, nothing at all was done by the municipal authorities until it was too late to summarily extinguish the innumerable foci of infection which had had time to establish themselves over the entire city. Mandevi, the quarter first contaminated, "consists of an agglomeration of unclean houses that are overflowing with filthy inhabitants. Not one single rule of hygiene is observed in this slum, where man and beast live together pell-mell amidst semi-darkness and respiring a heavy vitiated atmosphere. The sewers are not in working order, and on either side of the street close to the houses there are open drains about two feet in depth which, owing to defective flushing, are lined with an evil smelling deposit made up of vegetable and animal detritus." And yet, in spite of this shocking condition of things, the pestilence did not rage more severely in Mandevi than elsewhere, and when at last repressive measures were adopted it had almost completely disappeared from that quarter. The exodus that took place from Bombay was enormous. At the commencement of the present year it was calculated that upwards of 300,000 people had left the city, spreading themselves all over the peninsula. Old writers asserted that the plague never occurred south of a certain latitude, and as a matter of fact it has never crossed the equator; but great atmospheric heat cannot, as was alleged, be the sole cause of the exemption, because at the very time the epidemic was most severe in Northern India the temperature there was quite as high as it was in the south, which remained immune. Dr. Yersin's method of treatment is the only one of which Dr. Bonneau speaks approvingly. It is true that his results in Bombay were not so favourable as they had been in Hong-Kong, but this was owing to the manner in which the serum was prepared. In China it was obtained after the intravenous injection of living cultures, whereas in India the latter were dead and were injected subcutaneously. Yersin's serum is likewise, he considers, valuable as a prophylactic, but Dr. Bonneau was not at all impressed with the preventive quality of M. Haffkine's lymph, which he characterises as not only crude but dangerous. M. Haffkine's method, moreover, does not in his opinion possess the merit of novelty, having already been essayed by Ferran in Spain and Pfeffer in Germany.

THE DUTIES OF BOARDS OF GUARDIANS.

WE are of opinion that it is one of the duties of boards of guardians to grant relief and shelter to the vagrants, tramps, and such like persons who apply to them for relief. We are also of opinion that it is one of the duties of boards of guardians to administer that relief at the least possible expense to the ratepayers and consequently in a way which shall not tend to aggravate an evil which is one of the most difficult and pressing of our social problems. It is claimed, and claimed, we believe, rightly, that the Salvation Army by reason of its shelters has much to answer for in attracting to certain districts and neighbourhoods a class of persons who make mendicity a means of livelihood, and who, when "trade" is slack and they cannot get the necessary pence to swell the coffers of the Salvation Army, are obliged to seek the shelter of the casual wards and workhouses. Thus an increased burden is put upon the ratepayers, and the population of in too many cases an already overcrowded district augmented to an extent which, by reason of the character of that augmentation, is a menace to the public health. This being so it is surprising that a board of guardians should be found so apathetic to their responsibilities and duties as to attempt a procedure which encourages these pseudo-charitable institutions to carry on a work which is admitted by all who have rightly studied the question to be pernicious. From a letter in the *Times* from the pen of the Rev. J. E. Hand, assistant curate of St. Jude's, Whitechapel, it would appear, however, that the Bethnal-green board of guardians have adopted the practice of sending men to the Salvation Army Homes, for whom they pay 5*s.* per week per man. These men are troublesome to the guardians, hence they shift their responsibility to the Salvation Army at the ratepayers' expense. The Local Government Board do not appear to have sanctioned this practice (although we have not the letter written by the Local Government Board to the guardians on the subject before us), and had they done so we quite agree with the Rev. J. E. Hand that they would be "indirectly sanctioning the guardians to allow their 'loafer' paupers to enjoy immunity from any practical supervision by Poor Law authorities." Mr. Bramwell Booth has, of course, written a letter attempting to defend the guardians, but beyond correcting one or two errors in Mr. Hand's letter which are obviously the result of hurried writing—and the assistant curate of an East End district cannot be expected to find time hang heavily upon his hands—he practically makes no defence at all. Such statements as "Most of the men have remained in our employment

for some time, costing the guardians less with us than in the workhouse"; and "perhaps he (Mr. Hand) has not yet realised the responsibilities of a household and felt the bitterness of having to pay out of slender and hardly-earned income for the support in comparative luxury of idle wastrels whose whole business in life is to get through it at other people's expense," &c., are plausible; but, unfortunately for Mr. Booth, in this last sentence which we have quoted he gives his whole case away. It is these wastrels, as he very aptly calls them, who are the source of all the trouble; but whatever may be the inability of the guardians to deal with them there can be no shadow of a doubt that they should not be encouraged in this course of life. It is the shelters of the kind run by the Salvation Army which help to manufacture such kind of men, and as long as this class of people know that by suffering a little hardship—and hardship is second nature to them—they can obtain food and shelter to tide them over their vicissitudes, they will continue to live by the methods they have adopted. For this class of persons the shelters are nothing more than hotbeds for the forcing of mendicity. The Salvation Army shelters are not, and cannot be, in spite of anything which Mr. Booth may say to the contrary, under the control of the local authorities, as they do not come within the meaning of the Common Lodging Houses Acts, and it is monstrous that these places should have been allowed to attain the proportions they have. Surely it is time that the legislature should step in and place them under control, for until this is done, whatever steps may be taken to stamp out vagrancy in other directions, they will be circumvented by these so-called charitable institutions. We have nothing whatever to say against the motives of the Salvation Army, but their methods are often distinctly bad.

THE AWFUL BARGE STORY.

A GRUESOME story has appeared in the columns of several of our contemporaries about a barge full of hospital refuse, which was described as lying and leaking in the Thames during most of last week opposite the intake of one of the metropolitan water companies. The true facts of the case are as follows. The barge was loaded at the Lambeth Vestry wharf with ordinary house refuse. There is no truth in the statement that her cargo or any part of it consisted of hospital refuse, and in the interests of sterling fiction we should like to know who invented this report. The barge went up the river to discharge her cargo, but in consequence of its alleged origin no one would receive it. She was then allowed to lie on the foreshore until she became a nuisance, when an order was served on her by the Port of London Sanitary Authority "to abate." This order was complied with by the removal of the barge through Teddington Lock, out of the jurisdiction of the Port Sanitary Authority. By this time her story became known, or rather the untrue rumour about her contents became known, and she was refused facilities for discharge by everyone. She was then brought back into the jurisdiction of the Port Sanitary Authority when at once a fresh notice was served upon her "to abate." She was by this time leaking and her cargo was decomposing. The owner then brought her down to Chiswick and turned over the greater part of the cargo to a sailing barge which, with the original barge, was on Wednesday last towed down to the mouth of the river where the nuisance was thrown overboard. The main reason for serving a nuisance order was on account of the injury to the river from pumping out her bilge and not from any smell or effluvium from the material, which had been freely treated with chloride of lime under the supervision of the Medical Officer of the Port, Dr. W. H. Collingridge. We understand that the owner of the barge, having practically refused to take steps to abate the nuisance, has been summoned at the West London Police Court. There is no doubt that he did not show a ready compliance and that his inaction might have been perilous to the community, but we can understand his feelings of helpless exasperation at the treatment that he received on the river-bank and the lying rumours concerning his cargo.

THE OUTBREAK OF TYPHOID FEVER AT UNIVERSITY COLLEGE HOSPITAL.

IN the course of the last ten days several cases of typhoid fever have occurred amongst the nurses and maids at University College Hospital. In all about eighteen have been attacked. A temporary dining-room had been provided for them in the course of the summer when certain houses in which they had been previously accommodated were pulled down on account of the re-building of the hospital. The water which had been used for drinking in this room, instead of being taken from the main as is usual throughout the hospital, was drawn from a cistern which became contaminated. The defect has now been remedied, but it has been thought best to provide another dining-room in a different part of the building. No cases have appeared amongst the patients in the wards, the sisters, or the resident officers. Up to the present time all the cases are doing well.

RECURRENCE OF HEPATIC ABSCESS AFTER INCISION AND APPARENT RECOVERY.

DR. PAUL REBREYEND reports[1] an interesting case of recurring hepatic abscess in an old soldier, aged forty-seven years. The patient had suffered from dysentery in Algeria in 1874, but it was not until he quitted the army five years later that he began to feel pain, accompanied by a sensation of weight, in his hepatic region. These somewhat vague symptoms recurred at intervals during the next three or four years, each recurrence necessitating the interruption of his work for a few days; and in 1883 he for the first time became aware of a swelling which in the course of about a fortnight developed into a well-defined epigastric tumour. For this he was treated in the Hôtel-Dieu by Professor Le Fort, who performed aspiration three times at intervals of a week, injecting tincture of iodine on the last two occasions. With regard to the character of the matter evacuated the patient was quite positive. At no stage did it resemble hydatid fluid, having from the beginning been reddish-brown in colour and so thick that it was only with difficulty it could be made to flow through the cannula. A week after the last aspiration, as the tumour had again filled and was larger than before, a vertical incision five centimetres long was made slightly to the left of the median line, and in ten days, cicatrisation being firmly established, the patient was discharged completely recovered. Six months later, however, he experienced a return of his former malaise, the pain and heavy feeling lasting several days, but his medical attendant administered quinine and a few doses of calomel, and the trouble seemed to pass away definitively. It was not until fourteen years had elapsed that he again sought treatment on account of his hepatic affection. A fortnight previously, without any obvious cause, he was seized with pain in his epigastrium, and soon a tumour as large as an orange made its appearance at the old site. On examination the liver was found to be small and retracted, hidden under the false ribs but not encroaching on the lung. There had been no jaundice, vomiting, or diarrhœa, and his appetite was good. During the interval the patient's general health had remained satisfactory; he had lost neither flesh nor strength,

[1] Duplay's Archives for August, 1897.

and his renal excretion had been normal. On June 13th, 1897, Dr. Marchand operated at the Saint-Louis Hospital, reproducing his predecessor's incision, but prolonging it slightly downwards. The tumour contained yellowish-green, grumous pus, and was firmly adherent to the parietal peritoneum. Its walls were very thick and fairly smooth internally, but the contained cavity was somewhat irregular in shape. The pus, examined under the microscope and also by culture on gelose, was pronounced to be sterile. Hooklets and other relics of the echinococcus were carefully searched for but with negative results. In conclusion Dr. Rebreyend gives it as his opinion that the case is the first on record in which recurrence of an hepatic abscess occurred after operative interference followed by such a long interval. The cause or causes which led to the recurrence are, however, still to seek, but the fact that the pus evacuated at the second operation was sterile is greatly in favour of the view that the second abscess was not of recent formation; the thickness of its walls also points in the same direction, so that we are justified in thinking that it had formed a long time, probably years, previously—perhaps it had commenced immediately after the first operation. The sudden appearance of the abscess may easily have been due to a little fresh exudation into it caused perhaps by some slight unnoticed trauma and the increase in size may have sufficed to break through some fascia which had held it down, so that it formed an obvious swelling.

CHEWING GUM.

AN inquest was held on Oct. 6th at Lincoln upon the body of a child, aged seven years and eleven months, who died after eating "chewing gum." The sweetmeat in question was labeled "for chewing only" and "this is not to be eaten." After hearing the medical evidence the jury returned a verdict "that death was due to peritonitis of which they were unable to say the cause. At the same time the foreman stated they would like to say that in their opinion the sale of chewing gum should be strictly prohibited and shopkeepers asked to refrain from selling it." This last request seems to us to be superfluous in view of the preceding words, and besides to ask anyone to refrain from selling a harmful substance is silly. The right course is to pass a law to make anyone who sells stuff of this kind liable to a heavy penalty. We refer in our leading columns to this subject, but it is our firm opinion that quack medicines and the like will never be got rid of until such practices are made unprofitable. A fine of 10*s.* for adulterating foodstuffs is absurd, and in addition to increasing the fine by at least a hundred times the recommendation of the Select Committee ought to be enforced as to the convicted person publishing a notice of conviction in his place of business. What chewing gum is made of we do not know, but it is probably similar to that delectable mixture "chocolate chumps," which consist largely of paraffin wax and are quite indigestible.

THE SYMPTOMS OF CONGENITAL DIAPHRAGMATIC HERNIA.

CONGENITAL diaphragmatic hernia is rare; much more rarely is it the subject of clinical observation. The following case, published in the *Archives of Pediatrics* (New York), September, 1897, is therefore important. A healthy child, aged one month, was attacked by indigestion and colic, attended with frequent vomiting and quickened, laboured breathing. The pulse was from 130 to 160 and the respirations were from 60 to 80, with inspiratory recession. Percussion resonance of the chest was accentuated and the tympanitic sound of the abdomen was transmitted high into the thorax. Vesicular breathing was heard everywhere, but it was much more feeble than normal. The vomiting ceased in a day or two, but the laboured breathing continued. On the sixth day there was an exacerbation, and a frightful picture of Henoch's asthma dyspepticum was presented. After a short spell of crying the child suddenly became blue in the face and hands; he made violent respiratory efforts with slight success; his pulse was not perceptible; the extremities became cold, and cold perspiration dripped from the face. Active movements of intestinal gas could be heard. Warm mustard cloths were applied, but the paroxysm was not relieved until it had lasted an hour. He improved during the next few days, losing the inspiratory recession of the chest. But another asthmatic paroxysm occurred on the ninth day in which the ensiform cartilage was retracted almost to the spine and twitchings of the muscles of the face and arms occurred. After this other attacks took place from time to time, but they gradually diminished in number and intensity. They generally passed off with an escape of gas from the stomach and intestine. Gas could be felt moving in the abdomen and sometimes over the whole body. At the end of six weeks, when the child was apparently quite well, a moderate paroxysm occurred, in which he died. At the necropsy a deficiency was found in the diaphragm on the left side. The left pleural cavity was filled by the whole of the small intestine except the first two inches of the duodenum, the cæcum, the ascending, transverse, and part of the descending colon, together with the pancreas. The left lung was compressed into a small space. The heart was situated to the right of the median line deep in the mediastinum. During life the case was diagnosed by the writer, Dr. Booker, of Johns Hopkins University, and by Dr. Osler as asthma dyspepticum. A correct diagnosis of these cases is scarcely ever made.

YELLOW FEVER IN THE UNITED STATES.

YELLOW fever is still prevalent in the southern part of the United States, and if the sensational accounts published daily in the New York lay papers can be credited the condition of affairs in the Mississippi States is indeed lamentable. Happily, these are without a doubt highly coloured reports, and it would seem, judging from the American medical journals, that the epidemic is of a mild type and likely when cold weather sets in to disappear entirely. The circumstance that the outbreak has occurred in the autumn rather than in the spring must be regarded as fortunate, for it is more than probable that if the germs had been conveyed to the Gulf shore in the early part of the year a far-spreading and severe epidemic would have been the consequence. The work of combating diseases of an epidemic nature falls on the Marine Hospital Service, and most effectively have they discharged this duty. The appearance of yellow fever so soon after the announced discovery of the germ of that disease by Sanarelli is a somewhat peculiar coincidence. Another feature of the outbreak is the extraordinary panic that has seized the inhabitants of the districts, not only within the infected area, but of districts far outside. In fact, the inhabitants of the region in which the disease is raging appear to have kept calm in comparison with these outsiders. Every town and village in Alabama and Mississippi has established what a well-informed correspondent in the district has termed in a communication to us a "shot-gun quarantine." Although the disease has been officially declared to be yellow fever, and doubtless is, yet several medical men in New Orleans and the adjacent country stoutly deny the assertion, but say that it is a form of malaria or what is known in India as sun fever. Many of the resident health officers, who, of course, support the contention that it is yellow fever, say that the disease is as yet in an inchoate form; and Dr. Alfred Duperier, a southern health official,

draws attention to the fact that the worst epidemic of yellow fellow ever known in America, that of 1853, came in, like this year, with dengue, and that for some time it was difficult to distinguish between the two. Dr. Duperier goes further than this and states his belief, in which he is supported by the late Dr. Austin Flint (in his work on the Practice of Medicine), that these diseases are germane. Excellent authorities, however, believe that when frosty weather sets in the disease will disappear. In connexion with Sanarelli's discovery it is interesting to note that the majority of medical men in the United States are coming round to a belief in its genuineness.

PANCREATIC LITHIASIS.

AN abstract of the following case, published by J. Nicolas, appears in a recent number of the *Revue des Sciences Médicales*. A man, aged forty-seven years, entered a hospital in consequence of an affection which began suddenly two and a half months previously and was characterised by loss of strength, anorexia, and violent epigastric pains of an intermittent and paroxysmal type. Very abundant melæna, amounting to a litre, took place, which relieved him. This occurred again. There was no diarrhœa. The signs of pancreatic diabetes showed themselves. He passed 179 grammes of sugar per day. Six months after the onset of the disease he died from caseous pneumonia. At the necropsy the duct of Wirsung was found to be obstructed by fifteen or twenty calculi embedded in the walls. The duct communicated with a large purulent cavity which occupied a third of the pancreas, which was sclerosed. The cavity opened into the duodenum by a fistula. Probably from its walls the blood of the melæna had issued.

DISINFECTANT SOAPS.

AN important investigation into the relative antiseptic properties of a number of commercial and medicated soaps has recently been made by Dr. S. Rideal and the results are of undoubted interest. It is not surprising that he finds that many so-called disinfecting soaps are quite worthless as germicides. He points out the incompatible character of many of the antiseptic agents which have been incorporated with soaps for this purpose. Boracic acid, for example, is converted into sodium borate, which possesses little antiseptic power. Metallic salts are precipitated and disappear in an insoluble form from the water in the curd. Oleates of the metals are similarly inert. Dr. Rideal suggests that the metallic oxides dissolved in soda or potash might give better results. Mercuric iodide dissolved in potassium iodide to form potassio-mercuric iodide appears to be an excellent antiseptic, which is, moreover, quite compatible with soap basis. A soap prepared in this way containing 3 per cent. of iodide of mercury when tried with vigorous growths of both the bacillus coli and the staphylococcus pyogenes aureus inhibited growth, and rendered the liquid sterile from the time of its addition. Formalin however, compares very favourably with these results, since soap containing only 0·4 per cent. of formalin effected sterilisation within thirty minutes of the time it was added. The experiments were conducted with a 2 per cent. solution of the soap. Dr. Rideal regards the disinfectant power of the essential oils as having been much over-rated, and in a series of experiments in which carbolic and clove oil soaps were tried, it was found that these had an antiseptic action equal to, but not exceeding, ordinary curd soap. In the same series of experiments the biniodide soap proved superior, while carbolic soap containing three pounds of phenol to the hundredweight of soap proved for practical purposes to be of little avail. The inquiry is of the greatest value, not only in connexion with the uses of so-called antiseptic soaps in medical and surgical work, but also in connexion with the popular belief that the use of many so-called antiseptic or disinfectant soaps necessarily guarantees immunity from infectious diseases.

THE HOSPITAL REFORM ASSOCIATION.

A CONFERENCE has been arranged by the Hospital Reform Association to take place at St. Martin's Hall, Charing-cross-road, London, on Thursday, Oct. 21st, at 4.30 P.M. The Earl of Stamford will preside, and Mr. Timothy Holmes, Sir William Broadbent, Mr. Victor Horsley (the newly elected Direct Representative on the General Medical Council), Dr. Lovell Drage, Dr. Isambard Owen, Sir Henry Burdett, and Mr. C. S. Loch have promised to attend and speak. It has been arranged to discuss the administration of medical relief in the out-patient and casualty departments of hospitals and dispensaries, and the association suggests that the conference should deal more especially with (1) subscribers' letters, (2) patients' payments, (3) limitation of the number of new cases, and (4) the means to be employed to restrict relief to fit and proper cases. Hospital managers, members of the medical staffs of hospitals, general practitioners in medicine, and representatives of supporters of hospitals are invited to attend and join in the discussion, Mr. T. Garrett Horder, Cardiff, the hon. secretary of the Hospital Reform Association, informs us that the conference will adjourn at 6.30 P.M. and meet again at 8 P.M., so that ample time will be given for the meeting to hear the views at length of many speakers. Mr. Horder will be glad to receive donations towards defraying the expenses of the meeting.

THE LONDON COUNTY COUNCIL, TYPHOID FEVER, AND WATER SUPPLY.

THE zeal of the London County Council in its interest to guard the public health is of course worthy of commendation, but we imagine that its recent decision to refer to the Public Health and Water Committee the question for them to inquire and report upon as to whether the causes which have led to the typhoid fever epidemic in Maidstone have any parallel in the conditions of the London water-supply, and what steps, if any, should be taken to prevent the propagation of the disease in London, will lead to an answer which has long been known before. To commence with, the source of supply in Maidstone is from wells, while the metropolitan supply is, with the exception of the Kent Company, which is but a small fraction of the whole, derived from flowing rivers, the Thames and the Lea. Further, the water supplied to London is with the same exception filtered. There is no such intercepting purifying process at Maidstone. This is a fact alone which should reassure the London public. The extraordinary purifying effects of sand filtration are well established, and it is not too much to say that so effective is this filtering method that the filtered water is again and again found to be sterile—that is, free from organisms, whether pathogenic or non-pathogenic. It is even doubtful whether pathogenic organisms occur in the water drawn at the intakes since the flow of a river is very inimical to the life of the disease germ, especially when associated with a countless number of harmless organisms. The practical absence of water-borne diseases like typhoid fever and cholera in London during the last thirty years is undoubtedly due to the efficiency of sand filtration, and it is of vital importance that this efficiency should be always maintained. In such a case the London water-supply that is derived from the Thames and the Lea may be depended upon. What we should like the County Council to do is to take some action which shall result in the appointment of a competent authority, whose duty it shall be to inspect and control the great filtering

processes at the waterworks of the several companies. How important the efficiency of sand filtration is may be judged from the fact that it is this mainly which has kept London water-drinkers free from disease. Then let this efficiency be doubly secured by a system of independent control and inspection.

MEDICAL AND SCIENCE STUDENTS AND THE INDIA CIVIL SERVICE.

WE may briefly call attention to a communication from a correspondent in connexion with this subject which appears at page 1011 of the present number of THE LANCET. Concerning the high reputation and character which the India Civil Service deservedly enjoys and the opening and opportunities it affords to men of ability and culture for distinguishing themselves there can be no doubt; but it must be borne in mind that ability and culture of a superior kind are indispensably requisite on the part of intending candidates, for the examination is of a high standard and the competition is severe. We quite concur with our correspondent in what he says about the stress and hardship of competition in the medical profession in this country, and valuable appointments and promising careers for medical and science students outside the profession are therefore to be well considered and welcomed. Whether this career is within the reach or not of such students, and whether the character and scope of the India Civil Service examination be such as to offer them fair and reasonable chances of success we cannot say, but our correspondent declares that they are, and the special object of his communication is to show this to be so. Hitherto Oxford, Cambridge, and Dublin University men running on classical or mathematical lines have mainly been the successful competitors for these appointments, and there has been a virtual absence of candidates who have devoted themselves to natural science. The subjects embraced by the India Civil Service examination give it an elevated and broad standard, and that the mere preparation for it tends to put a man on a high intellectual plane by the wide and accurate reading and sound liberal culture demanded of him is certain, so that even the unsuccessful student will have little or no cause to regard his studies as wasted time, whereas if he is successful he will enter on a career that is lucrative and well worthy of his ambition.

PSYCHRO-ANÆSTHESIA.

IN the last number of *Brain* Dr. Leonard Guthrie has described under this name a curious case of sensory disturbance. The patient was a bricklayer, aged fifty-two years, who was seen in 1894 and complained then, as he has continued to do since, of a sensation of painful coldness affecting at first the right leg, but later also the arm on the same side. He had always been in good health since 1892, but when kneeling at work his right knee became locked. In August, 1893, he fell, and effusion took place into the joint. He was then also found to have a loose cartilage in the joint. He said that when the coldness first came on it seemed as though his foot was placed on ice in the hollow of the foot, but now it was all over the foot, and the coldest pain came from the roots of the toes. He described the sensation in the foot and leg as if a number of insects were trying to pass each other and could not. The foot was most comfortable in a hot bath or in bed, but he could not bear anything to touch him on the leg besides the bed-clothes. The knee-jerks were active and equal on the two sides and there was no unsteadiness. Tactile sensation was perfect, and pin-pricks were recognised readily and accurately. He also appreciated heat and cold, but application of cold to the right leg was distressing, while that of heat was agreeable. There was no difference in the temperature of the limbs and no evidence of trophic disturbance; but the whole of the right lower extremity was flabby, and the thigh on this side measured an inch less, and the calf three-quarters of an inch less, than the corresponding parts of the opposite leg. The sensations of cold were not confined to the area of distribution of particular nerves. Dr. Guthrie remarks that he has adopted the term "psychro-anæsthesia" used by Silvio to describe symptoms somewhat resembling those of his patient. "Meralgia paræsthetica" is a term used by Roth of a similar condition, and the subject has also received attention from Bernard, Escat, Osler, Hirsch, and Weir Mitchell. After discussing the various possible conditions which might give rise to the symptoms in this case, Dr. Guthrie is inclined to think that the most likely condition is one of syringomyelia in which the function of the posterior commissure is perverted but not destroyed, and he reports that so far all the ordinary remedies have failed to afford any relief.

DAMAGES FOR NEGLIGENCE IN BELGIUM.

AN action has recently been tried in Liège in which a member of a medical aid society who had been injured sued the medical officer for damages on account of non-attendance. It was stated that he was repeatedly sent for, but did not visit the plaintiff for six days, and no explanation of this negligence appears to have been offered. It was not shown that the plaintiff's recovery was as a matter of fact retarded as another medical man was called in, but the court considered that the plaintiff had to bear physical and moral pain to an extent which he would not have had to endure had he received immediate medical attention and as a solatium awarded him 200 francs. In commenting upon this case the *Scalpel* points out that, quite apart from the merits of this particular instance, the reason given for this award appears to open up a new terror for the medical officer of a club, for whenever he may be prevented from attending immediately it may always be possible to affirm that the patient has had to endure "physical and moral pain" which might have been allayed by earlier attention, and so is entitled to substantial damages. Indeed, the adverse legal decisions and the growing exactions of the clubs have led the *Scalpel*, which may be regarded as giving expression to the feelings of the profession in Belgium, to declare that there is only one way of solving the difficulty, and that is by medical men refusing all contract appointments and insisting on clubs and medical aid societies paying a fee for each attendance.

OPENING OF THE MEDICAL SESSION AT ST. VINCENT'S HOSPITAL, DUBLIN, AND THE ARMY MEDICAL SERVICE.

THE opening of the medical session at St. Vincent's Hospital, Dublin, under the presidency of Sir Christopher Nixon, on the 5th instant, was largely attended. Dr. Cox delivered the address on the occasion, and mainly took for his theme the genesis and development of the Army Medical Service as it is at present and as it should be. The lecturer, in the course of an eloquent address, alluded to the distinguished part which the medical service had always played in the history of the army and vindicated the claims of medical officers to have their grievances considered and redressed. The medical service, he declared, required to be advanced another step and to be constituted, like the Royal Engineers, into a Royal Corps, and its officers to have purely military rank and titles with limited power of command, but absolute within its own sphere. Dr. Cox, in the course of his address, after alluding to many conspicuous services rendered by medical officers, proceeded to cite some illustrations of the treatment which had been

accorded to them by some high military authorities, attributable apparently to a dominating and aggressive spirit of militarism. Sir Christopher Nixon and Sir William Thomson, President of the Royal College of Surgeons in Ireland, who proposed a vote of thanks to Dr. Cox, followed with some speeches to a similar effect. It is quite clear that the Army Medical Service owing to its present unpopularity has ceased to attract a sufficient number of candidates to fill its vacancies, and it is not likely to be otherwise until it is authoritatively known what steps are proposed to be taken by the Government in the matter. The sooner the new warrant is published the better for all concerned.

THE TREATMENT OF GENERAL SUPPURATIVE PERITONITIS.

RECOVERY after laparotomy for suppurative peritonitis is rare. A new method of operating, described by Dr. J. M. T. Finney in a recent number of the Johns Hopkins Hospital *Bulletin*, which proved successful in five consecutive cases therefore demands attention. He attributes the failure of previous methods to insufficient removal of the infectious exudation. The observations of Pawlowsky show that in purulent peritonitis the lymph channels are choked with bacteria and inflammatory products. The naturally great powers of absorption of the peritoneum are much diminished and it is unable to dispose of the inflammatory products. Dr. Finney operates as follows. A sufficiently long incision to admit of easy access to all parts of the peritoneal cavity is made. The coils of small intestine are quickly withdrawn, beginning with the one that is perforated. All or as much as is necessary of the small intestine is placed outside the abdomen and covered with warm gauze or towels. The peritoneal cavity is then thoroughly and systematically wiped out with large pledgets of gauze wrung out of hot salt solution, paying particular attention to the pelvis. In some cases it may be well to flush with warm salt solution, but this is rarely necessary. Next the small intestine is systematically examined loop by loop while still outside the abdomen and cleansed by wiping. It is necessary to wipe with considerable force at times in order to remove adherent flakes of partly organised lymph. Success depends on the thoroughness with which this is done. The cleansing process is facilitated if the wiping of the coils is carried on under a constant irrigation of warm salt solution. The intestines are replaced with the damaged or sutured coil the most superficial, in order that it may be the better drained by being packed around with gauze if necessary. The abdominal wound is tightly closed, leaving just room enough between two sutures for a gauze drain. If there are any evidences of distension or pain Paquelin's cautery should be thoroughly applied to the abdomen, and the bowels should be moved early by calomel in repeated doses followed by salts and a turpentine enema. To ensure success, the operation should, if possible, be performed within a few hours of perforation. In Dr. Finney's five successful cases the peritonitis was secondary to typhoid perforation in one and to appendicitis in four. He operated unsuccessfully in one case of appendicitis, but the patient was *in extremis* at the time of the operation, which was only undertaken as a forlorn hope.

ON the recommendation of the General Purposes Committee the London County Council have approved the appointment of Dr. Clowes to the post of chemist in the place of Mr. Dibdin, who resigned some months ago. Dr. Clowes (D.Sc. Lond.) was the professor of chemistry at the University College, Nottingham, where he was very popular, and where he has carried out some important work of investigation. His name may be remembered chiefly in connexion with the introduction of a method for the accurate detection of the quantity of explosive gas in the air of coal mines.

IT has been decided to hold a dinner of the members of the Society of Medical Phonographers to congratulate Sir William Gowers on the recent honour which Her Majesty has been pleased to confer upon him. The dinner is to be held on Nov. 25th, and Sir William Broadbent, who ever since the foundation of the society has been one of its warmest friends, has expressed his willingness to take the chair on the occasion. Inquiries should be addressed to Mr. L. E. Creasy, 1, Windsor-road, Ealing, or to Dr. James Taylor, 49, Welbeck-street, W.

A PATHOLOGICAL meeting of the Neurological Society of London will be held at 11, Chandos-street, W., on Oct. 28th, at 8.30 P.M. Members wishing to make communications are invited to let the secretaries, Dr. F. W. Mott, F.R.S., and Dr. J. S. Risien Russell, know as soon as possible, and are requested to send very short abstracts dealing with the salient features of their communications.

THE annual public night in connexion with the Medical Society of University College, London, will be held on Wednesday, Oct. 20th, when an address will be delivered by Dr. W. B. Ransom on "Vis Medicatrix Naturæ." The chair will be taken at 8 P.M. by the President, Dr. G. B. Hunt. There will also be an exhibition of Roentgen rays, instruments, slides, &c.

THE autumn dinner of the Irish Medical Schools' and Graduates' Association will take place at the Café Monico, Piccadilly, on Nov. 2nd, at 7.15 P.M. Professor Alexander Macalister, F.R.S., will preside, and the association will entertain Field-Marshal Lord Roberts, V.C., G.C.B.

THE Roentgen Society will hold its opening meeting at St. Martin's Town Hall, London, W.C., on Nov. 5th, when the presidential address will be delivered by Professor Silvanus Thompson. There will be an exhibition of Roentgen apparatus, photographs, and methods.

THE Leprosy Conference which has been sitting during the week at Berlin has had a full programme both scientific and social. We may expect as a result of its deliberations some authoritative and practical conclusions concerning the pathology and treatment of leprosy.

DR. COUPLAND'S report to the Royal Commission on Vaccination concerning the outbreak of small-pox in Leicester in 1892-1893 was issued on Wednesday last as a Parliamentary paper.

MR. E. H. DOUTY, M.B. Cantab., has resigned the office of assistant surgeon to Addenbrooke's Hospital, being obliged to leave Cambridge by the state of his health.

WE draw the attention of our readers to an advertisement announcing the proposed formation of a whist club to which members of the medical profession will be elected under favourable circumstances. Too much whist is as bad for a medical man as for anybody else, but a little whist in the evening would be a very useful prescription for many over-worked practitioners.

PATHOLOGICAL SOCIETY OF MANCHESTER.—At the annual meeting of the above society held on Wednesday, Oct. 13th, 1897, the following gentlemen were elected office-bearers for session 1897-98:—President: Mr. C. E. Richmond. Vice-Presidents: Dr. H. A. G. Brooke and Dr. R. B. Wild. Treasurer: Dr. T. A. Helme. Secretary: Dr. T. N. Kelynack. Committee: Dr. A. Brown, Mr. J. Collier, Dr. J. E. Platt, Dr. E. T. Milner, Dr. E. S. Reynolds, Mr. J. W. Smith, Mr. W. P. Stocks, and Dr. R. T. Williamson. Auditors: Dr. F. C. Moore and Dr. W. E. Fothergill.

A METHOD OF PRECISE LOCALISATION AND MEASUREMENT BY MEANS OF ROENTGEN RAYS.

BY JAS. MACKENZIE DAVIDSON, M.B., C.M. ABERD.,
AND
W. S. HEDLEY, M.D. EDIN.

A SKIAGRAPH is a shadow upon one single plane of objects that may be situated on various planes. The shadows thus obtained indicate the presence of an object, but give no correct idea of its form or size or relative position. The picture has no relief. It is indefinite and apt actually to be misleading. It is not surprising, therefore, that in the case of foreign bodies embedded in the tissues operative failure has often followed a too exclusive reliance upon the indications of the Roentgen photograph. In fact, the latter has hitherto been accepted by the prudent surgeon as evidence of the presence only of a foreign body in a part and not as reliable evidence of its position or size. It has long been evident, therefore, that some method must be devised for arriving at the size, shape, and position of the real object.

The present writers have lately worked out a method which is fully able to accomplish this. Many suggestions have been made from time to time as to varying the position of the tube or of the object and taking two or more pictures and estimating by triangulation the position of the foreign body. There are many practical difficulties in the way, and none of these suggestions have hitherto resulted in any method sufficiently definite to meet the actual requirements of practice. It occurred to one of us (Dr. Mackenzie Davidson) to actually work out the position of the foreign body by means of fine silk threads so arranged as to represent the actual path of the x rays which produced the negatives. He then constructed the apparatus to carry out the method, which is as follows. Two wires at right angles to each other are placed upon the photographic plate, film, or paper. The Crookes's tube is then placed with its anode at a measured distance from the plate and exactly perpendicularly to where the wires cross. The tube is fixed in a holder which slides in one plane. Further, one of the cross wires must be in exactly the same plane as that in which the tube is to be displaced. The wires being painted over with some pigment the part to be photographed is placed on the plate and carries with it a mark of the cross wires. The tube is then displaced to a measured distance to one side of the perpendicular and an exposure given, then to a corresponding point on the other side of the perpendicular and another similar exposure given. The resulting negative shows double images from the two different points of view. A further precaution is necessary—viz., to mark one quadrant of the plate and the corresponding quadrant on the patient's skin.

The negative having been developed, fixed, and slightly washed is at once placed on a horizontal stage illuminated from below by a suitable reflector (an arrangement similar to a re-toucher's desk). The negative may be placed with the gelatin surface upwards, or downwards if the glass is not too thick. In the case of celluloid films it is most convenient to place them downwards. The negative is adjusted so that a perpendicular dropped from a notch in a horizontal scale falls upon the point where the shadows of the wires cross. On each side of it another notch is made at the exact distance and height that the anode of the Crookes's tube occupied in the two exposures. A fine silk thread is then passed through each lateral notch and a small lead counter weight is attached to one end of each thread, while the other is passed through the eye of a fine needle. The needle is weighted with lead so that its eye lies flat on the surface of the negative. In short, these two silk threads represent the path of the x rays, so that if each needle be carefully placed upon a corresponding point in each shadow it follows that the point where these threads cross marks the position occupied by the corresponding part of the actual object. Further, its distance can be measured perpendicularly from three planes—from the horizontal which gives its depth and from the two planes represented by the shadows of the cross wires. By measuring any other desired corresponding points the precise size, position, and direction of the object can be determined, and remembering that the cross wires have left their mark on the patient's skin we can at once from these data give the surgeon all the information he can possibly desire. One of us (Dr. Hedley) has suggested that instead of displacing the tube, two tubes be used and a simultaneous exposure given.

It appears to us that this method has the following advantages: (1) the exact localisation can be completed a few minutes after the photograph is taken; (2) it can be used by anyone without recourse to any mathematical formulæ; and (3) it will be useful for measuring bony surfaces and cavities—e.g., the pelvis. The method has been fully tested on the living subject as well as on artificial models,[1] and has proved very accurate and reliable. Messrs. Curry and Paxton, 195, Great Portland-street, have made an apparatus to Dr. Mackenzie Davidson's design by means of which the method can be carried out conveniently, accurately, and quickly.

CALENDAR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual Calendar has just been published by the Council of the College. It shows that there are 1191 Fellows on the roll of the College (as compared with 1175 last year), of whom 1023 obtained the Fellowship by examination, 15 were elected as Members of twenty years' standing under Section 5 of Cap. 15 Vict., 151 are Fellows by election, and 2 are *ad eundem* Fellows. There are 17,333 Members (as compared with last year's total of 17,102) and 590 Licentiates in Midwifery, the examination for this Licence having been discontinued since 1876. The Licentiates in Dental Surgery are stated to number 1186 (or an increase of 94 over last year) and the Diplomates in Public Health to number 282.

During the past collegiate year 9 candidates presented themselves in elementary physiology, 8 of whom passed and 1 was referred; 387 candidates presented themselves in elementary biology, of whom 246 passed and 141 were referred. Of 503 candidates who presented themselves in chemistry 300 passed and 203 were referred; in materia medica, of 98 candidates 59 passed and 39 were referred; in practical pharmacy, of 309 candidates 228 passed and 81 were referred.

The proportion of the fees paid by candidates for these examinations receivable by the College amounted to £1933 11*s.* 6*d.*, the examiners elected by the College receiving £195 5*s.* The examiners in elementary biology are appointed by the Council of the College, those in elementary physiology in conjunction with the Royal College of Physicians of London, and those in chemistry, materia medica, and practical pharmacy by the Royal College of Physicians of London, under the scheme for an Examining Board in England.

The examiners in anatomy and physiology for the Second Examination are appointed in conjunction with the Royal College of Physicians of London; they have conducted the Primary Examination under the Old Regulations as well as the Second Examination of the Examining Board; 715 candidates presented themselves for examination in anatomy, of whom 349 passed and 366 were referred; 702 presented themselves in physiology, 346 of whom passed and 356 were referred. The proportion of fees paid by candidates to the College for these examinations amounted to £3219 16*s.* 6*d.*, the examiners appointed by the College receiving £1159 16*s.*

The Board of Examiners in anatomy and physiology for the diploma of Fellow, elected annually by the Council of the College, held two meetings for the examination of 193 candidates, of whom 59 passed, whilst 134 were referred. The fees paid by candidates amounted to £1207 10*s.*, of which the Board received £772.

The Court of Examiners, ten in number, are elected by the Council from the Fellows of the College only for a period of five years. They conduct the Third or Final Examination in surgery of the Examining Board in England as well as the Second or Final Examination for the diploma of Member

[1] As an extreme instance it may be mentioned that a No. 5 shot has been accurately localised in a mass of paraffin made opaque by lamp-black. The shot was reached by a single needle puncture at the estimated depth before being cut down upon.

under the Old Regulations and the Pass or Final Examination for the diploma of Fellow. During the past collegiate year the Court held two examinations for the Fellowship and four for the Membership. At the former there were 96 candidates, 50 of whom passed; 43 were referred for six months and 3 for one year. For the Membership 783 candidates presented themselves in surgery, of whom 493 passed and 290 were referred. The fees paid by candidates for these examinations amounted to £10,365 14*s*., and the fees paid to the Court of Examiners and the examiners in midwifery amounted to £5172 19*s*. The examiners in medicine under the scheme for an examining board in England are elected by the Royal College of Physicians of London. Of 794 candidates examined 489 passed and 305 were referred. The examiners in midwifery are appointed in conjunction with the Royal College of Physicians of London and have examined 932 candidates, of whom 576 passed and 356 were referred.

The Board of Examiners in dental surgery have held two meetings for the examination of 141 candidates, 98 of whom received the Licence and 43 were referred. The fees received from candidates amounted to £1029, of which the Board received £592 4*s*.

The examiners in public health appointed in conjunction with the Royal College of Physicians of London examined 43 candidates in Part I., 32 of whom passed and 11 were referred; in Part. II. out of 51 candidates 29 received their diplomas and 22 were referred. The fees received by the College for both parts of the examination amounted to £222 12*s*., the examiners receiving £141.

With regard to the finances of the College, it appears that the income from all sources amounted to £28,975 7*s*. 3*d*., the largest item being derived from the fees paid by candidates for the diplomas of the College—viz., £17,978 4*s*.—the next largest being from dividends on the Erasmus Wilson bequest, £4885 4*s*. 10*d*.; rents from chambers adjoining the College produce £750; investments, £797 6*s*. 10*d*.; hire of rooms, sale of questions, &c., at Examination Hall, £701 5*s*. 1*d*.; incidental receipts at the College, £231 13*s*. 3*d*.; receipts from trust funds, £290 2*s*. 8*d*.; dividends from sinking fund for Savoy Estate, £6 3*s*. 3*d*.; expenses, repayable by Metropolitan Asylums Board at Midsummer, 1896, £282 0*s*. 6*d*.; fees retained for candidates, £404 5*s*.; amount paid by the London County Council on taking over Lincoln's-inn-fields, £1162 19*s*. 5*d*.; balance at Midsummer Day, 1896 (including half-balance Goldsmiths' Company Research Grant), £1486 2*s*. 5*d*.

The expenses for the year amounted to £27,184 12*s*. 2*d*. (leaving a balance at the bankers, including half Goldsmiths' Grant, of £1790 15*s*. 1*d*.), the largest item being (as in the receipts) in connexion with the examinations—examiners' fees, £8033 14*s*.; half expenses of Examination Hall for the purposes of examinations, £4151 13*s*. 2*d*. (this amount includes rent, rates, taxes, fuel, and light, which absorb the no small amount of £2087 1*s*. 4*d*.); expenses of Fellowship and Dental Examinations, £376 15*s*. 1*d*. Half expenses of the Scientific Laboratories on the Victoria-embankment amount to £689 12*s*. 3*d*. (this amount does not include rent, rates, taxes, fuel, or light). At the College rates, taxes, and insurance stand at £1314 19*s*.; extraordinary expenses—i.e., reconstructing lecture theatre, Hunterian festival, &c.,—£1003 0*s*. 8*d*.; alterations and repairs, £329 11*s*.; fees to members of the Council, £236 5*s*.; law expenses, £144 5*s*. 9*d*.; stationery, printing, &c., £405 10*s*. 7*d*.; salaries, wages, and pensions in the three departments—Museum, Library, and College—£4782 6*s*.; lectures, catalogues, specimens, &c., for museum, £346 11*s*. 11*d*.; purchase and binding of books, &c., for library, £740 4*s*. 2*d*.; trust funds, £339 2*s*. 2*d*.; purchase of stock, £2505 14*s*.; fees returned to candidates, £427 7*s*.; corporation duty, paid under protest, £158 1*s*.; Metropolitan Asylums Board (re-payable), £295 17*s*. 10*d*.; miscellaneous items—i.e., printing calendar, fuel and light, furniture, &c.—£727 16*s*.; disbursement of Goldsmiths' Research Grant, £176 5*s*. 7*d*. The expenses of the Museum and Library are exclusive of rates, taxes, repairs, fuel, light, &c.

The Secretary's report contains an abstract of the work done by the Council and committees, the Committee of Management of the two Royal Colleges, the Research Laboratories on Victoria-embankment, also reports of meetings of Fellows and Members, elections, &c. From the annual report of the Finance Committee we find that the gross income of the College for the past collegiate year is £804 less than the gross income of the previous year. This decrease is due to the falling-off in the receipts from the examinations of the Combined Examining Board. Under this head there is a decrease of £530 on the First Examination, of £240 on the Second, and of £842 on the Final, while there is an increase of £249 on the Diploma Fees paid by University candidates, making altogether a net decrease on these examinations of £1363. The receipts from the Fellowship and Dental Examinations continue at a satisfactory figure, being in each case higher than in any previous year.

The expenditure of the College for the past year is £1341 less than the expenditure of the previous year. This large difference is chiefly due to a reduction of £957,—arising in consequence of the smaller number of candidates examined, in the amount of the fees paid to the examiners under the combined Examining Board. This reduction, of course, to a great extent compensates for the decrease of £1363 in the receipts. The expenses, however, which are less liable to variation than the examiners' fees, have in most instances been smaller than in the previous years. There is thus a reduction of £243 in the expenses of the Examination Hall, of £140 in the expenses of the laboratories, of £445 in the general working expenses of the College in Lincoln's Inn Fields, and of £239 in the special expenses of the Museum. The expenses of the Museum have not been so low for several years, but the difference in the general working expenses of the College is only brought about by the inclusion under this head in the previous year of a payment of £405 for seven years' insurance. There is only a difference of about £4 in the special expenses of the Library for the two years (the difference being in favour of last year), this being the department of expenditure least liable to variation. The extraordinary expenditure has been even heavier than in the preceding year, the chief item being a sum of £753 expended on reconstructing and redecorating the Lecture Theatre. The balance on the "income and expenditure" account amounts to £2015. The fact that so large a margin has been left, notwithstanding the heavy expenditure on the Lecture Theatre, must be regarded as very satisfactory and as an indication of the sound financial position of the College.

From the report of Dr. G. Sims Woodhead, the Director of the Research Laboratories of the two Royal Colleges, it appears that on June 4th last the number of those working or having received permission to work in the laboratories was 14. The agreement with the Metropolitan Asylums Board for the examination in the laboratories of specimens from the throats of the diphtheria patients admitted to the hospitals of the Board was continued up to Dec. 31st, 1896. During the half year, from June 5th to Dec. 31st, 8701 specimens, or an average of 55·4 per diem, were examined and reported upon. The Board have now made arrangements for the conduct of this work in their own hospitals.

The preparation of antitoxic serum for the treatment of diphtheria in the hospitals of the Metropolitan Asylums Board has been carried out during the year, and this work is to be continued for the Board. From June 5th, 1896, to June 4th, 1897, the Director has supplied 8473 doses of 4000 units, 1539 of 3000 units, 350 of 2000 units, 786 of 1500 units, and 3258 doses of 1000 units (or no less than 43,646 doses of 1000 units each).

The grant entrusted to the two Royal Colleges by the Goldsmiths' Company is still being administered by the Laboratories Committee for the furtherance of the antitoxin treatment of diphtheria. Since the last annual report on the work done in connexion with the grant, Dr. Cartwright Wood has continued his investigations on the production of potent diphtheria antitoxins and has succeeded by his new method in obtaining large quantities of strong antitoxic serum. The strongest of these serums prepared by Dr. Wood has been supplied to Dr. Sidney Martin at University College Hospital, who reported to THE LANCET, Oct. 17th, 1896, that he had obtained most remarkable results by its use. In 1894 the percentage death-rate from diphtheria in that hospital was 39. In 1895, the first year in which antitoxin was used, the death-rate had fallen to 28, and in 1896 (Sept. 22nd), when the strong serum was used, to 20·5. In Dr. Martin's figures additional evidence is supplied of the importance of the treatment of diphtheria by antitoxic serum at as early a stage of the disease as possible.

During the past collegiate year many valuable specimens have been added to the Museum of the College; these have already been noticed in THE LANCET of July 24th, p. 209.

In the Library Department Mr. Victor Gustave Plarr, B.A. Oxon., formerly librarian to King's College, London, has been

appointed to succeed the late Mr. James Blake Bailey, B.A. Oxon., who died, regretted by all who knew him, on April 14th, 1897. Mr. Bailey was appointed librarian in 1887. On the completion of the additions to the library premises in 1888 the collection of books was re-arranged by Mr. Bailey, and under his able management many improvements have since been introduced whereby the value of the library as a place of study and reference has been very greatly increased.

THE FRONTIER RISINGS.

THERE is not much to be chronicled this week in the way of news regarding the tribal fighting on the Indian frontier, the bulk of which has probably yet to come. There is an apparent lull at the present time, but it is only apparent, for the preparations for the advance of Sir William Lockhart's large force to Tirah have been proceeding most actively, and the expedition is now ready; 30,000 men, at the least, have been mobilised and active operations will begin at once. Meanwhile, the tribesmen in the Khyber have attacked our troops at Fort Jumrud, and the Orakzais and Afridis are understood to be assembling in force. Winter is apparently setting in, for there has been a heavy snowfall in the Safed Koh range of mountains. The Mamund tribe have surrendered and are giving up their arms and the tribes have been offered medical aid for their wounded by General Blood. Notwithstanding all the disastrous events that have recently taken place in India, and the anxiety and hard work to which these have given rise, the conduct of affairs in that country has apparently been very energetic and judicious under exceptionally trying circumstances. The Government has lost no time in dealing with this big frontier outbreak. It was not an occasion, as we have said, for arguing, but for action; the rebellion must be put down by force and the tribes that have taken part in it subdued and disarmed. It is a very fortunate circumstance that the present Viceroy was appointed by the late Government and not by the present Ministry.

All that Lord Elgin has done since his appointment has been based, of course, upon the knowledge he has acquired in the country as Viceroy of India and as one responsible for the government of that great Eastern dependency. We see that Lord Onslow, in his courageous and statesmanlike speech at Guildford the other day, altogether denies that there has been any breach of faith with the tribesmen of the Chitral districts, maintaining, on the contrary, that the proclamation had been adhered to and fulfilled. What Lord Elgin had done had been done deliberately in what he conceived to be a spirit of justice to the tribes and in the interest of the country over which he ruled. The last persons to attack his policy would seem to be the party who appointed him to the post he now fills, and in any case Lord Onslow is justified in saying that there was no alternative between trusting and removing a high official charged with grave responsibility under most difficult circumstances. That the present Viceroy enjoys the confidence of those in India is undoubted, and nothing is more gratifying than the way in which the Rajahs have come forward to join the soldiers of the Queen, or the bravery, devotion, and loyalty exhibited by the native troops. The sick and wounded, we are glad to say, are reported to be doing well. The Royal West Kent Regiment has been escorting a large convoy of sick to Panjkora. The latest papers from India are, as might be expected, full of details respecting the military operations on the frontier, but their news is discounted by the fact that it has for the most part already arrived here by telegraph. From intelligence which has reached us we gather that the hospital service has worked satisfactorily and well. Great stress is laid upon the extremely difficult nature of the country, upon the fatigue and hardship imposed upon the troops by their expeditionary marches, the heat of the climate and great diurnal changes of temperature, and the difficulties in regard to food-supply, but the health and spirits of the troops—British and native—are, all things considered, very good.

The base hospital of the Malakand Field Force is, or was, at Nowshera. From a communication we have received we learn that the hospital patients, many of whom are officers, consist of wounded from Malakand Fort and district and cases of dysentery and fever, and among the latter several of enteric fever. It had been very hot, but the evenings were (the end of September) getting cool; there were occasional dust-storms. An officer of the Guides who had been seriously ill was getting quite well, and the patients generally were progressing favourably. The medical and nursing staff of the hospital had, of course, been very busy and all engaged had had an active time of it.

THE BATTLE OF THE CLUBS.[1]

THE POSITION AT YARMOUTH: A LIBERAL JOURNAL.

"IT should be remembered that above and beyond professional interests are the public, and surely those who are the paymasters of the profession have the right to dictate the terms upon which they shall be served." So says the *Eastern Daily Press* of Oct. 8th in referring to the relations which exist between the friendly societies and the medical men in the town of Yarmouth. What sentiments from a "Liberal" journal, as we believe the *Eastern Daily Press* to be! The *Eastern Daily Press* also says that the "doctors came into conflict with the societies upon a pocket question." This is not true. The facts are that the medical men and the clubs always worked amicably together with mutual benefit until the clubs from being benefit societies for *bonâ-fide* working men turned themselves into so-called medical aid societies, which only paid the medical officer a proportion of the sum earned by his labours, allowed him no voice in the selection of members, and admitted the well-to-do to their charity. The doctrine that the paymaster has a right to dictate terms to his employed may appear to be a sound one to this singular Liberal journal, but how would it work in practice? For instance, why should not the public demand their *Eastern Daily Press* for a farthing instead of a penny, or seek to have advertisements inserted at a half-penny per column or at some reduced rate? The public are the paymasters of the paper, why should they not "dictate the terms upon which they shall be served"? If this argument were alone employed by the masters in the engineering strike, would the *Eastern Daily Press* side with the masters? We will not labour the point, for it is clear that the *Eastern Daily Press* wrote with but little comprehension of medical matters or the actual position between general practitioners and medical aid associations.

A correspondent writing under the pseudonym of "Medicus" replied on the following day in excellent terms to the reflection of the Liberal newspaper upon the medical profession, and with laudable fairness the letter was inserted as a whole. A portion of it we quote: "The medical profession," he wrote, "naturally objects in its own interests to a system which deprives it of a large portion of its legitimate earnings, and hence considers the conduct of such of its members as consent to undergo this 'sweating' as 'infamous,' a term which has been employed by the Medical Council for unprofessional conduct. Your leader goes on to state 'that above and beyond professional interests are the public.' Just so. Those who are best able to judge are of opinion that the public cannot be properly attended to by medical men who undertake to 'physic them wholesale.' The proportion of two medical men to the 6000 members in Yarmouth and to 11,000 in Norwich speaks for itself. The whole system which governs these newly constituted medical institutes and medical aid societies is not only degrading to an honourable profession, but is equally detrimental to the best interests of that class of the public who have until recently been glad to avail themselves of the services of their club doctors."

This puts the whole matter in a nutshell and quite deprives the persons who take club appointments that have been refused by their fellow practitioners of the claim that is constantly put forward for them that they act out of humanity. They do nothing of the kind. It is not humane to bolster up a system of medical attendance which is not only based upon robbery of the medical profession, but which

[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1s.

offers at the same time totally inadequate care to the sick poor. It is not humane. It is on the other hand cruel as well as stupid.

THE HEARTS OF OAK SOCIETY AND THEIR MEDICAL OFFICERS.

The following circular has been received by one of the medical examiners to the Hearts of Oak Benefit Society:—

322, Winchester House, Old Broad-street,
London, E.C., Sept. 6th, 1897.

THE HEARTS OF OAK AND THE PRINCE OF WALES'S HOSPITAL FUND COMMEMORATION STAMPS AND STAMP ALBUM.

SIR,—I have the full permission of the Committee of the Hearts of Oak for placing the following facts before you and for asking you to assist in this matter as medical officer to the Society, and should further be glad to know if you will inform me whether your medical agent (if you have one) is trustworthy, and if he can be employed in the same benevolent object.

The Prince of Wales's Commemoration Hospital Fund Stamp was issued to afford those who could subscribe a small sum a tangible memento of this charity.

The Stamp is printed in two colours, blue price one shilling, and red price half-a-crown. The die having been destroyed in the presence of the Duke of York no more can be issued.

The stamp was not only issued to benefit the Hospitals, for the object which the Prince of Wales had also at heart was to interest the working classes in this noble and benevolent scheme.

An album in ornamental form is now to be issued containing pages for the stamps for several years, a letter from Lord Rothschild, reproductions of the portraits and signatures of Her Majesty the Queen and H.R.H. the Prince of Wales, as well as explanation how the production of it with the owner's own signature therein will ensure the bearer or his family immediate and special attention in any Hospital.

Thus the working man will benefit himself (subject, of course to the prior assistance of your own valuable organisation) whilst he assists the charity.

The Album will be sold to him at the price of 6*d.* net.

You, Sir, can obtain it at the trade price either from the Hearts of Oak office, 17, Charlotte-street, Fitzroy-square, or from me. This not for cash, but on sale or return at about one month.

The stamps also so obtainable carry a 10 per cent. commission on all sold direct from me or as arranged by you with the Hearts of Oak office, as they have the 10 per cent. on all sold through them.

A special notice of such sales will be communicated to the press, and further particulars will be found in the September issue of the *Hearts of Oak Review*.

May I hope you will kindly favour me with a reply and state what number of Albums I may be permitted to place with you.

Believe me, yours faithfully,
H. S. C. M. GORDON,
Acting for the Prince of Wales's Hospital Commemoration Fund.

It is characteristic of the position to which lay organisations attempt to degrade their medical men that they should ask them to tout for the sale of books among their patients, whether "on sale or return" or on any other principle. We should much like to know, too, why any "bearer or his family" should obtain "immediate and special attention in any hospital" because he had bought a sixpenny album. We do not see why the hospital authorities should not resent the attempt to interfere with their routine and even refuse to see the patient who put forward greedy claims to earlier and more particular treatment than other sick poor. We should much like to know who Mr. H. S. C. M. Gordon is, and what right he has to describe himself as acting for the Prince of Wales's Commemoration Fund. The authorities of the Fund are privy to this circular, we suppose? If they are we are sure they have not realised what it means. If they are not, Mr. H. S. C. M. Gordon should be made to explain by what right he signs as acting for the Fund.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6349 births and 3414 deaths were registered during the week ending Oct. 9th. The annual rate of mortality in these towns, which had declined in the eight preceding weeks from 29·5 to 16·8 per 1000, further fell last week to 16·2. In London the rate was 15·5 per 1000, while it averaged 16·7 in the thirty-two provincial towns. The lowest rates in these towns were 9·4 in Portsmouth, 9·9 in Croydon, 10·9 in Halifax, and 11·5 in Blackburn; the highest rates were 21·3 in Sunderland, 21·7 in Manchester, 25·1 in Wolverhampton, and 26·2 in Bolton. The 3414 deaths included 433 which were referred to the principal zymotic diseases, against 608 and 514 in the two preceding weeks; of these, 131 resulted from diarrhœa, 86 from diphtheria, 73 from "fever" (principally enteric), 52 from measles, 47 from whooping-cough, and 44 from scarlet fever. No death from any of these diseases was recorded last week in Croydon; in the other towns they caused the lowest death-rates in Bristol, Brighton, Nottingham, and Blackburn; and the highest rates in Newcastle-upon-Tyne, Sunderland, Preston, and Wolverhampton. The greatest mortality from measles occurred in Burnley and in Sunderland; from scarlet fever in Huddersfield; from whooping-cough in Plymouth and in Gateshead; from "fever" in Wolverhampton; and from diarrhœa in Wolverhampton, Oldham, Preston, and Salford. The 86 deaths from diphtheria included 53 in London, 6 in Cardiff, 5 in West Ham, 3 in Leicester, and 3 in Liverpool. No fatal case of small-pox was registered during last week either in London or in any other of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3653, 3697, and 3677 at the end of the three preceding weeks, had risen again to 3692 on Saturday last, the 9th inst.; 400 new cases were admitted during the week, against 376, 358, and 349 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 165 and 167 in the two preceding weeks, further rose last week to 176, but were 47 below the corrected average. The causes of 28, or 0·8 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, Hull, Newcastle-upon-Tyne, and in sixteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Preston, and Bradford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·8 and 19·4 per 1000 in the two preceding weeks, further rose to 19·8 during the week ending Oct. 9th, and exceeded by 3·6 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 8·5 in Perth and 15·9 in Leith to 22·0 in Greenock and 24·2 in Dundee. The 590 deaths in these towns included 28 which were referred to diarrhœa, 13 to scarlet fever, 12 to whooping-cough, 12 to "fever," 5 to diphtheria, and 3 to measles. In all, 73 deaths resulted from these principal zymotic diseases, against 78 in each of the two preceding weeks. These 73 deaths were equal to an annual rate of 2·4 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The 28 fatal cases of diarrhœa showed a decline of 13 from the number in the preceding week, and included 15 in Glasgow, and 5 in Dundee. The deaths referred to scarlet fever, which had been 6 and 5 in the two preceding weeks, rose again last week to 13, of which 5 occurred in Glasgow, 3 in Edinburgh, and 3 in Aberdeen. The 12 fatal cases of whooping-cough showed a further decline from the numbers recorded in recent weeks, and included 7 in Glasgow and 3 in Dundee. The deaths referred to different forms of "fever," which had been 9 and 7 in the two preceding weeks, rose again to 12 last week, of which 7 occurred in Glasgow, 2 in Edinburgh, and 2 in Paisley. The 5 fatal cases of diphtheria included 2 in Glasgow and 2 in Dundee. The deaths from diseases of the respiratory organs in these towns, which had been 96 and 137 in the two preceding weeks, further rose to 162 last week, and were more than double the number recorded in the corresponding week of last year. The causes of 28, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·3 and 26·5 per 1000 in the two preceding weeks, further declined to 21·9 during the week ending Oct. 9th. During the thirteen weeks of last quarter the death-rate in the city averaged 24·0 per 1000, the rate during the same period being 19·4 in London and 18·4 in Edinburgh. The 147 deaths registered in Dublin during the week under notice showed a decline of 31 from the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 39 and 20 in the two preceding weeks; of these, 10 resulted from diarrhœa, 4 from "fever," 3 from

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS OF LONDON—SEPTEMBER, 1897.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1897.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,463,169	1	3155	1386	—	14	7	23	620	—	5706	13·3	—	93	85	187	126	—	73	1	425	1050	2·5	6687	15·6	156
West Districts.																										
Paddington	126,161	—	61	30	—	6	—	1	23	—	121	10·0	—	—	3	9	3	—	1	—	17	33	2·7	167	13·8	173
Kensington	171,427	—	141	31	—	22	—	2	25	—	221	13·4	—	2	2	8	—	—	2	—	11	25	1·5	206	12·5	150
Hammersmith	105,959	—	51	7	—	10	—	1	12	—	81	8·0	—	—	2	2	1	—	—	—	17	22	2·2	154	15·2	145
Fulham	120,040	—	109	52	—	3	—	1	7	—	172	14·9	—	—	5	8	7	—	1	—	13	34	3·0	177	15·4	131
Chelsea	96,692	—	55	23	—	9	1	—	10	—	98	10·6	—	—	1	5	5	—	1	—	5	17	1·8	142	15·3	170
St. George Hanover-square	80,330	—	25	8	—	7	—	—	7	—	47	6·1	—	—	1	2	—	—	2	—	4	9	1·2	92	11·9	127
Westminster	53,027	—	28	6	—	4	1	—	8	—	47	9·2	—	1	—	1	3	—	1	—	5	11	2·2	86	16·9	127
St. James Westminster	22,576	—	23	1	—	1	1	—	4	—	30	13·9	—	—	1	1	—	—	—	—	1	3	1·4	25	11·5	136
North Districts.																										
Marylebone	140,808	—	42	25	—	11	—	2	34	—	114	8·4	—	—	—	4	2	—	1	—	13	20	1·5	211	15·6	154
Hampstead	77,275	—	16	9	—	3	—	1	2	—	31	4·2	—	—	1	2	2	—	1	—	4	10	1·3	79	10·7	160
St. Pancras	242,255	1	121	36	—	32	—	—	32	—	222	9·6	—	—	3	1	6	11	4	—	18	43	1·9	383	16·5	184
Islington	341,134	—	242	59	—	38	—	3	33	—	375	11·5	—	—	3	5	9	14	7	—	20	58	1·8	423	12·9	133
Stoke Newington	34,136	—	11	4	—	7	—	—	5	—	27	8·2	—	—	—	—	—	—	1	—	—	1	0·3	34	11·6	95
Hackney	216,698	—	214	80	—	49	2	—	27	—	372	17·9	—	—	8	1	10	2	7	—	20	48	2·3	295	14·2	125
Central Districts.																										
St. Giles	37,840	—	28	8	—	7	—	—	9	—	52	14·3	—	—	1	—	—	—	—	—	1	2	0·6	56	15·4	71
St. Martin-in-the-Fields	12,711	—	4	1	—	2	—	—	1	—	8	6·6	—	—	—	—	—	—	—	—	—	—	—	18	14·8	455
Strand	23,552	—	26	5	—	4	—	—	3	—	38	16·8	—	—	1	—	1	—	1	—	1	4	1·8	43	19·0	187
Holborn	30,493	—	11	12	—	3	—	—	7	—	33	11·3	—	—	—	—	—	—	1	—	2	3	1·0	45	15·4	100
Clerkenwell	66,162	—	54	10	—	5	—	—	11	—	130	20·5	—	—	3	3	6	3	2	—	12	29	4·8	142	22·4	250
St. Luke	41,279	—	46	25	—	8	—	—	10	—	89	22·5	—	—	—	2	2	1	—	—	9	14	3·5	83	21·0	160
City of London	30,228	—	19	6	—	7	—	—	5	—	37	12·8	—	—	1	—	1	—	1	—	2	5	1·7	53	18·3	182
East Districts.																										
Shoreditch	121,883	—	79	47	—	23	1	1	21	—	172	14·7	—	—	6	2	3	13	4	—	32	60	5·1	251	21·5	196
Bethnal Green	129,098	—	118	70	—	15	—	1	33	—	237	19·1	—	—	4	2	7	8	2	—	14	37	3·0	213	17·2	168
Whitechapel	79,724	—	78	44	—	7	—	1	21	—	151	19·8	—	—	7	—	6	2	1	—	6	22	2·9	150	19·6	181
St. George-in-the-East	47,917	—	40	17	—	7	—	—	7	—	71	15·4	—	—	2	3	3	1	—	—	11	20	4·4	117	25·5	256
Limehouse	58,508	—	58	23	—	10	—	—	7	—	98	17·5	—	—	5	1	3	1	—	—	8	18	3·2	122	21·7	192
Mile End Old Town	111,883	—	129	48	—	13	—	1	13	—	205	18·2	—	—	2	4	4	4	3	—	11	28	2·6	184	17·1	158
Poplar	169,811	—	129	59	—	27	—	1	24	—	240	14·7	—	—	2	5	5	8	3	—	18	41	2·5	283	17·4	157
South Districts.																										
St. Saviour Southwark	24,919	—	18	9	—	1	—	—	5	—	33	13·8	—	—	—	—	2	1	—	—	5	8	3·3	37	15·5	136
St. George Southwark	60,388	—	68	23	—	9	—	—	15	—	115	19·9	—	—	4	2	4	4	4	1	13	32	5·5	118	20·4	153
Newington	122,191	—	121	36	—	15	—	—	17	—	189	16·1	—	—	5	3	4	5	2	—	15	34	2·9	220	18·8	162
St. Olave Southwark	11,480	—	11	2	—	3	—	—	1	—	17	15·4	—	—	—	—	1	—	1	—	3	5	4·5	16	14·5	122
Bermondsey	85,629	—	73	42	—	13	—	—	11	—	139	16·9	—	—	4	6	6	1	2	—	15	34	4·1	176	21·4	217
Rotherhithe	40,643	—	46	6	—	7	—	—	7	—	66	16·9	—	—	2	4	2	—	—	—	4	12	3·1	61	15·7	129
Lambeth	300,048	—	163	89	—	27	—	1	36	—	316	11·0	—	—	9	4	11	5	1	—	28	58	2·0	446	15·5	131
Battersea	168,877	—	254	74	—	14	—	—	24	—	366	22·6	—	—	3	7	11	6	4	—	16	47	2·9	237	14·6	142
Wandsworth	196,612	—	109	71	—	20	—	2	28	—	230	12·3	—	—	4	4	13	2	2	—	20	45	2·4	240	11·2	145
Camberwell	257,575	—	147	118	—	19	—	2	30	—	316	12·8	—	—	9	6	15	8	5	—	26	67	2·7	301	14·6	156
Greenwich	178,367	—	73	63	—	24	1	2	25	—	188	11·1	—	—	1	2	5	1	1	—	5	20	2·0	224	16·7	147
Lewisham (excluding Penge)	86,152	—	41	23	—	6	—	—	7	—	77	9·3	—	—	1	—	1	1	1	—	12	16	1·9	98	11·9	112
Woolwich...	41,409	—	19	13	—	4	—	—	4	—	40	10·1	—	—	—	1	2	—	—	—	8	11	2·8	54	13·6	107
Lee	39,215	—	27	11	—	6	—	—	5	—	49	13·0	—	—	—	—	—	1	—	—	4	5	1·3	48	12·8	216
Plumstead	61,057	—	34	10	—	5	—	—	4	—	53	9·1	—	—	—	1	2	—	1	—	21	25	4·3	83	14·2	179
Port of London	—	—	2	—	—	1	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 32 cases of membranous croup.

† Included in deaths from membranous croup.

scarlet fever, and not one either from small-pox, measles, diphtheria, or whooping-cough. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·0 in London and 1·8 in Edinburgh. The fatal cases of diarrhœa, which had been 21 and 8 in the two preceding weeks, rose again to 10 last week. The deaths referred to different forms of "fever," which had been 6, 9, and 6 in the three preceding weeks, further declined to 4 last week. The mortality from measles slightly exceeded that recorded in the preceding week. The 147 deaths in Dublin last week included 34 of infants under one year of age and 39 of persons aged upwards of sixty years; the deaths of both infants and of elderly persons showed a decline from those recorded in the preceding week. Eight inquest cases and 6 deaths from violence were registered; and 48, or nearly a third, of the deaths occurred in public institutions. The causes of 14, or nearly 10 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING SEPTEMBER, 1897.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during September in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 13·3 per 1000 of the population, estimated at 4,463,169 persons in the middle of this year. In the three preceding months the rates had been 8·7, 11·2, and 10·2 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Hammersmith, St. George Hanover-square, Marylebone, Hampstead, Stoke Newington, St. Martin-in-the-Fields, and Plumstead; while they showed the largest excess in Clerkenwell, St. Luke, Bethnal Green, Whitechapel, Mile End Old Town, St. George Southwark, and Battersea. Only one case of small-pox was notified in London during September, against 4, 7, and 1 in the three preceding months; this case belonged to St. Pancras sanitary area. No small-pox case was admitted into any of the Metropolitan Asylum Hospitals during September, and no patients remained under treatment at the end of the month. The prevalence of scarlet fever in London showed a marked increase upon that recorded in recent months; this disease was proportionally most prevalent in St. James Westminster, Hackney, Strand, St. Luke, Whitechapel, Limehouse, Mile End Old Town, Newington, Rotherhithe, and Battersea sanitary areas. The Metropolitan Asylum Hospitals contained 3585 scarlet fever patients at the end of September, against 2786, 3064, and 3390 at the end of the three preceding months; the weekly admissions averaged 350, against 272, 364, and 346 in the three preceding months. The prevalence of diphtheria in London showed an increase upon that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Clerkenwell, St. Luke, Bethnal Green, Whitechapel, Bermondsey, Battersea, and Camberwell. There were 1033 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of September, against 864, 957, and 1006 at the end of the three preceding months; the weekly admissions averaged 150, against 125, 139, and 131 in the three preceding months. The prevalence of enteric fever in London during the month under notice showed a marked further increase upon that recorded in recent months; this disease was proportionately most prevalent in Stoke Newington, Hackney, St. Luke, City of London, Shoreditch, Limehouse, and St. Olave Southwark sanitary areas. The Metropolitan Asylum Hospitals contained 173 enteric fever patients at the end of September, against 70, 82, and 133 at the end of the three preceding months; the weekly admissions averaged 28, against 20 and 26 in the two preceding months. Erysipelas showed the highest proportional prevalence in Marylebone, St. Giles, St. Luke, Bethnal Green, Whitechapel, and St. George Southwark sanitary areas. The 23 cases of puerperal fever notified in London during September included 3 in Islington and 2 each in Kensington, Marylebone, Wandsworth, Camberwell, and Greenwich sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the five weeks ending Saturday, October 2nd, the deaths of 6687 persons belonging to London were registered, equal to an annual rate of 15·6 per 1000, against 13·9, 18·3, and 23·7 in the three preceding months. The lowest death-rates during September in the various sanitary areas were 10·7 in Hampstead, 11·2 in Wandsworth, 11·5 in St. James Westminster, 11·6 in Stoke Newington, 11·9 in St. George Hanover-square and in Lewisham (excluding Penge), 12·5 in Kensington, and 12·8 in Lee; the highest rates were 20·4 in St. George Southwark, 21·0 in St. Luke, 21·4 in Bermondsey, 21·5 in Shoreditch, 21·7 in Limehouse, 22·4 in Clerkenwell, and 25·5 in St. George-in-the-East. During the five weeks of September 1050 deaths were referred to the principal zymotic diseases in London; of these, 485 resulted from diarrhœa, 187 from diphtheria, 126 from whooping-cough, 93 from measles, 85 from scarlet fever, 73 from enteric fever, and 1 from an ill-defined form of continued fever. These 1050 deaths were equal to an annual rate of 2·5 per 1000. No deaths from any of these diseases were registered last month in St. Martin-in-the-Fields; in the other sanitary areas they caused the lowest death-rates in St. George Hanover-square, Hampstead, Stoke Newington, St. Giles, Holborn, and Lee; and the highest rates in Clerkenwell, Shoreditch, St. George-in-the-East, St. George Southwark, St. Olave Southwark, Bermondsey, and Plumstead. The 93 fatal cases of measles were 16 below the corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Shoreditch, Whitechapel, Limehouse, and St. George Southwark sanitary areas. The 85 deaths referred to scarlet fever were 36 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Clerkenwell, St George-in-the-East, Bermondsey, and Rotherhithe. The 187 fatal cases of diphtheria were 16 below the corrected average number; the mortality from this disease was highest in Clerkenwell, Whitechapel, St. George Southwark, Bermondsey, Battersea, and Wandsworth sanitary areas. The 126 deaths from whooping-cough were 28 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Fulham, Chelsea, Shoreditch, Bethnal-green, and St George Southwark. The 73 fatal cases of enteric fever were within 2 of the corrected average number; this disease was proportionally most fatal in St. George Southwark sanitary area. The 485 deaths from diarrhœa were very slightly below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in St. Luke, Shoreditch, St. George-in-the-East, St. Saviour Southwark, and St. George Southwark. In conclusion, it may be stated that the mortality during September from these principal zymotic diseases was nearly 9 per cent. below the average.

Infant mortality in London, measured by the proportion of deaths of children under one year of age to registered births, was equal to 156 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Stoke Newington, St. Giles, Holborn, St. Olave Southwark, Lewisham, and Woolwich; and the highest rates in St. Martin-in-the-Fields, Clerkenwell, Shoreditch, St. George-in-the-East, Limehouse, Bermondsey, and Lee.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT P. MACKESSACK, A.M.S., having reported himself at the Royal Victoria Hospital, Netley, for duty, is posted to the Surgical Division from Oct. 5th. Brigade-Surgeon-Lieutenant-Colonel Frederick Lyons, M.D., retires on retired pay.

1st Life Guards: Surgeon-Major Horatio R. O. Cross, from Royal Horse Guards, to be Surgeon-Major, vice Surgeon-Lieutenant-Colonel J. S. Forrester, F.R.C.S. Edin., who exchanges.

Royal Horse Guards: Surgeon-Lieutenant-Colonel James S. Forrester, F.R.C.S. Edin., from 1st Life Guards, to be

Surgeon-Lieutenant-Colonel, vice Surgeon-Major H. R. O. Cross, who exchanges.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of the under-mentioned officers are placed permanently at the disposal of the Government of Bengal:—Surgeon-Captain Sunder (Bengal), Surgeon-Captain Maynard (Bengal), Surgeon-Captain O'Kinealy, and Surgeon-Captain F. C. Clarkson. The services of Surgeon-Lieutenant King (Bombay) are replaced at the disposal of the Military Department. Surgeon-Captain McNaught, A.M.S., has been transferred from the Bombay District to the Quetta District. Surgeon-Captain Newland, A.M.S., has been transferred from the Quetta District to the Nagpore District. Surgeon-Captain Hodgens, A.M.S., has been transferred from the Nagpore District to the Bombay District.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major R. M. P. Low, M.B., resigns his commission. The under-mentioned officers to be Surgeon-Majors:—Surgeon-Captain F. W. Gibbon, Surgeon-Captain A. B. Wade, M.B., and Surgeon-Major Walter Smith Cheyne, M.B., 2nd Volunteer Battalion the Gordon Highlanders.

VOLUNTEER CORPS.

Rifle: 4th (Cambridge University) Volunteer Battalion the Suffolk Regiment: Surgeon-Lieutenant L. E. Shore, M.D., to be Surgeon-Captain.

INDIAN AFFAIRS.

In addition to the news regarding the Tirah expedition now starting, the return of the forces with their sick and wounded from the Mohmand expedition, and the progress of the plague in the Bombay Presidency, we learn that there has been a daring and unexpected Burmese raid on Mandalay Fort. Things have generally been very quiet in Mandalay since its occupation by the British, although there has been from time to time a good deal of disturbance on the part of dacoits in Upper Burmah beyond it. The attack on Mandalay Fort was happily a very small affair. On the part of the garrison, an officer and two sepoys of the Madras Infantry were wounded, and a private of the Royal Scots seriously so. Troubles, like other things, rarely come singly. The Indian Government has its hands full of responsible work at the present time, and the drain—actual and potential—on its exchequer must be very great.

THE NILE EXPEDITION.

We have heard but little of late of General Kitchener's expeditionary force. Meanwhile, a work is being pushed on which will have an excellent effect on the future material interests of the country and on its pacification—namely, the railway. This is to be extended to Berber, and the Egyptian Government has granted the money for the purpose. Kassala is to be occupied by Egyptian troops in December. It seems probable that an advance will take place towards Khartoum early in next year.

The *Broad Arrow* says: "A large brass tablet mounted in oak is shortly to be placed in Haslar Chapel in memory of the two naval surgeons who lost their lives in the Benin Expedition. The memorial has been subscribed for by the medical officers of the Royal Naval Hospital and the brother officers of the deceased surgeons who went through the instructional course together at Haslar. Round the tablet is a cable-pattern border, and in each corner a naval emblem or crest. The inscription runs as follows: 'In memory of Surgeon Charles T. Fife, R.N., aged thirty, who was killed in action February, 18th, 1897, while attending to a wounded comrade; and Surgeon Richard H. Way, R.N., aged twenty-nine, who died of heatstroke February 21st, 1897, during the Benin Expedition. Erected by Naval Medical Officers.'"

We regret to learn that Surgeon-Major Semple, Assistant Professor of Pathology in the Army Medical School, who, it will be remembered proceeded to Maidstone to vaccinate against typhoid fever, has been obliged to return to Netley owing to an attack of Malta fever. Surgeon-Captain W. B. Leishman, M.B., has, we hear, arrived at Maidstone to continue the work which Surgeon-Major Semple initiated.

We understand that there are three commissions vacant in the Militia Medical Staff Corps. Under recent regulations an officer joining can have five or six months' employment during the first year. Early application should be made to the Officer Commanding Militia Medical Staff Corps, Aldershot.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on the 12th inst., Inspector-General W. H. Lloyd, M.D., being in the chair, the sum of £48 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

"THE EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE."

To the Editors of THE LANCET.

SIRS,—I have read with interest the report of your Special Sanitary Commissioner on the epidemic of typhoid fever in Maidstone, but cannot agree with all his conclusions. I will admit that the drainage system is perfect only in theory. Some of the main trunks have been badly laid, and many of the terminals are not properly flushed. But the condition in September, 1897, is much better than it was a year or two ago, and the figures your Commissioner quotes "show laudable activity on the part of the sanitary authorities." Now, typhoid fever has never been epidemic in Maidstone before, so that the sewers when in a worse condition than at present never produced typhoid fever.

Your Commissioner seems astonished at the "extraordinary susceptibility of the inhabitants of the three infected and high districts," and he describes "the immunity which the inhabitants of the low-lying central districts have enjoyed" as "equally extraordinary." Surely the reason is perfectly simple; the three high districts are supplied with the same poisoned water from the reservoir at Barming (Farleigh water) which can alone supply them, whereas the central district is supplied direct from the chalk at Boarley or from the springs at Cossington. Moreover, the western district—i.e., that nearest the Barming reservoir—has suffered more severely than either the north-eastern or the south-eastern areas of distribution of the Farleigh water. I may add, too, that some of the most severe cases (described by Sir William Broadbent as "virulent") occurred in one family at Barming who derived their water direct from the rising main as it ascends from the Farleigh pumping station to the Barming reservoir. The household consisted of seventeen persons; seven members of the family, all water-drinkers, suffered from the fever, two have died and two more are barely recovering from a virulent attack. All the servants escaped; they never drank water except when boiled as tea, &c., always drinking beer (brewed in Maidstone) for their dinner and supper.

I will relate the experience of my own terrace. There are six houses draining into a common drain which crosses a lawn and empties into the common sewer with an interceptor. No. 1, eight persons, drink water from their own well; no cases. No. 2, ten persons, drink water from their own well; no cases. (In both the above the company's water is not laid on.) No. 3, eleven persons, drank water from their own well until Aug. 20th, when the water was thought to taste of carbolic acid and so the company's water was drunk; six cases, two severe. No. 4, ten persons, drink the company's water; four cases. No. 5, empty house. No. 6, seven persons drink the company's water; three cases, all very severe indeed. The incidence of the fever has been on the servants and children, all water-drinkers. I have no doubt that the water was the sole cause of all these cases.

Then, again, your Commissioner thinks 35 cases occurring in the central district as proving too much. People do not visit their friends to drink water, but tea or beer or wine, though many of the 35 cases have been proved to have partaken of the polluted water. I do not for one moment wish to minimise the importance of putting our drainage in order. In fact, at a meeting of the medical practitioners of the town called by the mayor on Oct. 7th a resolution was passed asking the sanitary authorities to flush all the house drains throughout the town as well as to ensure that in future they shall be all supplied with a good flush of water. One fact has not been mentioned in your report. In the middle of the month of August there were a great many cases of severe diarrhœa, some of which passed on to enteritis

and a few were fatal. The diarrhœa was associated with a temperature of about 103° F. on the first day and thus differed from the ordinary summer diarrhœa. I am informed that several such cases occurred among the inmates of Barming Asylum, which received its water-supply entirely from the Farleigh source. Four of these cases died from colitis as verified by post-mortem examination. Were not these people suffering the direct effects of the initial poison which they purged away, thus rendering them less likely to develop the specific form of typhoid fever?

I am, Sirs, your obedient servant,

Maidstone, Oct. 10th, 1897. CHARLES E. HOAR, M.D. Lond.

RESPONSIBILITY FOR THE INSANITARY CONDITION OF HOUSES.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Oct. 2nd, p. 871, you refer to a decision by the Recorder of Belfast that if a citizen takes an unfurnished house which is not in a sanitary condition "he must examine it" and "must at his own expense make it right. Neither the landlord nor the agent was bound to do so." May I venture to observe that this decision apparently requires qualification having regard to the Housing of the Working Classes Act, 1890, Sec. 75, which reads as follows: "In any contract made after the fourteenth day of August, one thousand eight hundred and eighty-five, for letting for habitation by persons of the working classes a house or part of a house *there shall be implied a condition that the house is at the commencement of the holding in all respects reasonably fit for human habitation.* In this section the expression 'letting for habitation by persons of the working classes' means the letting for habitation of a house or part of a house at a rent not exceeding in England the sum named as the limit for the composition of rates by Section 3 of the Poor Rate Assessment and Collection Act, 1869, and in Scotland or Ireland four pounds."

The annual rent limit referred to in the Poor Rate, &c., Act, 1869, is £20 (or 7*s.* 8*d.* per week) in London; £13 (or 5*s.* per week) in Liverpool; £10 (or 3*s.* 10*d.* per week) in Manchester and Birmingham; and £8 (say, 3*s.* 1*d.* per week) elsewhere.—I am, Sirs, yours faithfully,

CHARLES PORTER, M.D. Irel., D.P.H. Camb.,
Medical Officer of Health.

Health Office, Stockport, Oct. 12th, 1897.

THE IMMEDIATE REDUCTION OF ANGULAR CURVATURE OF THE SPINE.

To the Editors of THE LANCET.

SIRS,—A paragraph in THE LANCET of Oct. 9th, p. 931, reads to the effect that the above-named operation was performed for the first time in London on Sept. 15th of this year. May I venture to point out that this is incorrect? On Aug. 19th, at the North-West London Hospital, I reduced under anæsthesia an angular curve in the upper dorsal region of a girl aged two and a half years. The deformity readily gave way (with a slight crack) to moderate pressure, and the spine was easily maintained in an over-corrected position whilst a plaster case, which the patient still wears, was being applied from the head to the pelvis. Since the operation the general health of the patient has greatly improved.

I feel sure that Mr. Tubby would not regard an operation as "successful" until there had been time for the ultimate result of the operation to have been reached, and in this particular measure this cannot be known before many months have elapsed. Since this mode of treatment is still on its trial it is important that it should be used only in really suitable cases. Rapidly progressive cases with abscess formation or fever on the one hand and on the other old healed and ankylosed cases are in my opinion unsuitable, and if they are treated by this method discredit is likely to be thrown upon what promises to be a very valuable help in the treatment of tuberculous kyphosis.

I am, Sirs, yours faithfully,

J. JACKSON CLARKE.

Old Cavendish-street, W., Oct. 9th, 1897.

"MEDICAL EVIDENCE AT CORONERS' INQUESTS."

To the Editors of THE LANCET.

SIRS,—I have read the annotation on the above subject in THE LANCET of Oct. 9th, and there are one or two points of general interest which arise out of it from a medical jurisprudence point of view. In the case of a man found dead it is quite common for the police or friends to call the medical man who lives nearest the spot. The medical man so called may be quite the most suitable person to speak as to the cause of death and as to the numerous other medico-legal points that may arise; but, on the other hand, he may not. He may be a man who, however good at his profession, knows nothing as to the nature of evidence; he may be incapable of distinguishing properly between the facts that he observes and the inferences that he draws from these facts. He may, too, from want of experience in the witness-box, not be able to answer questions in such a way as to make his meaning clear.

The medical man first called to the deceased may then not be the right man in the right place; it is a matter of chance whether he is or not. Now from your remarks it would seem to be implied that the theories of the first medical man were to be accepted without question, and that a second medical man who disagrees with those theories should not have given evidence. In the case in question you say the second medical man who was called was not present at the post-mortem examination. But what of that? He was called, not to controvert any facts observed by the other medical man—these he accepted—but to speak as to the deductions that he drew from those facts. He was there as an expert witness—a neither unusual nor unprofessional position for a medical man. The coroner in this case, when perfectly relevant questions were being put to the first medical witness by the solicitor who represented the friends of the deceased, said: "I will not allow cross-examination in the court" That surely would be a strange court of inquiry when witnesses could give their evidence without challenge and without cross-examination. It is to be noticed, however, that although the coroner in this inquest protected the medical witness from uncomfortable questions, yet he allowed the superintendent of police to cross-examine other witnesses. You say the thanks of the medical profession are due to the coroner for the way he conducted this inquiry. Why? Does the medical profession as a body put itself so incompetent in the witness-box that it wants to be saved from being cross-examined by a layman upon matters which the profession is supposed to be specially competent to deal with? If so, it does not say much for the confidence of the profession in their own capacity. If this is to be the rule it would follow that the most junior member of the profession just qualified might give in his evidence the most startling theories and he is not to be cross-examined as to them—that is to say, the accuracy and value of his evidence is not to be tested. How does it make for truth that in a court of justice the first statement of an expert witness is to be accepted without undergoing the best test of all evidence—viz., cross-examination?

I think the medical profession as a body have too much self-respect and too much desire for the truth to wish to escape from those tests to which all witnesses in every other profession are subject when they give evidence in court. If any expert medical witness gives evidence in the Queen's Bench he is liable to cross-examination. Why, then, in a coroner's court should this be considered improper, and why should the medical profession thank the coroner?

I am, Sirs, yours faithfully,

Bath, Oct. 12th, 1897. PRESTON KING, M.D. Cantab.

To the Editors of THE LANCET.

SIRS,—I have read your remarks in this case and feel sure you cannot have been made fully acquainted with the facts of the case. I send you the papers containing the reports of the inquest. You say that without my having seen the post-mortem examination I gave my evidence on generalities. I did not attend the post-mortem examination, but I fully and entirely accepted Dr. Heathcote's report as to this, and my evidence was based upon that and upon the other proved

facts in the case of which I had an equal opportunity with him of judging. My evidence was therefore not as to generalities, but based upon the actual facts of the case as proved by Dr. Heathcote and the witnesses who were present at the death. Wherein I differed from Dr. Heathcote was on the scientific conclusions to be deduced from those facts not in dispute.

Here was a man found in the road bruised and dying; he was fully conscious and stated twice that some one had knocked him down; his money was found on the pavement, his pocket was outside his trouser flap, and his keys were absent; asked where his keys were, he stated that they were in the road, some little distance away; this was found to be correct—they were found there. He had been seen by many people that day and was known to be in possession of money, and it was sworn that he had a £5 note in addition, but this was gone. Under these circumstances it was suggested that death was due to simple cardiac failure, and that the statement that he had been knocked down was a delusion due to the cardiac failure, although the statement he made in the same breath as to his keys was found to be absolutely true. It was also said by Dr. Heathcote that "the wounds on the back of the head were certainly caused by falling and that on the elbow also"; and that the marks on the face were "probably due to his struggling on to the footpath; you see he fell once, and I could distinctly see where he fell and then hit himself against the wall." All this as to his falling is pure surmise and Dr. Heathcote no more saw it than I did. Then being asked, Does not a man die suddenly as a rule in such a case; does he not fall down dead at once? Dr. Heathcote said: "Lying on the ground might make him recover somewhat, because dying on the ground there is less for the heart to do, and then when he attempted to get up he would faint again." He added that "people in that state very often say things that are not true; taking into consideration the general state, I should say he was under a wrong impression and was not hit."

Now I ask you, Sirs, if a man dying as suggested from sudden cardiac failure makes statements which are delusions, whilst he is able at the same time to state facts accurately? I simply say that it is not my experience; it does not appear to me to consist with the facts, and I have never met either in books or in the experience of my friends such a case. If the theory under such circumstances of sudden death from heart disease is so easily accepted, how simple and easy murder of a man with known heart disease will become. If the case was so simple as appears to be assumed, why did the coroner adjourn it three times and hold four distinct sittings, taking evidence at each, and why was such an effort made to trace the £5 note and a reward offered for its recovery? All this was surely beside the mark if it was a death from natural causes. The coroner himself remarked that if the deceased received a blow and failure of the heart resulted it was a case of murder. Dr. Heathcote said there was nothing to show that deceased had not received a blow.

Now the whole question resolves itself into this: Did the deceased die from primary heart failure or did he die from heart failure as the result of violence, he himself stating twice that he had been knocked down? Which is the more probable in these circumstances, that the deceased died from simple heart failure or from heart failure as a result of injury? To accept the former theory we have to assume that the deceased fell down from heart failure, fainted, got up again, walked a short distance, then fell down again in a second faint, and, after all this, was able to say to two persons that he had been knocked down, and also able to state correctly where his keys would be found, and that then he died from primary heart failure. In the theory that failure of the heart resulted from injury there is not a single difficulty and not one fact in the case which is not consistent with the deceased's own statement that he had been knocked down. It is to be remarked that the jury did not return a verdict of death from natural causes, as they would have done if the inquest had been closed at the first sitting, but that in consequence of the evidence subsequently given they left it in doubt by their verdict whether the deceased's death was due to violence or not.

I am, Sirs, yours faithfully,

WILLIAM H. COOKE,
Resident Medical Officer Royal United Hospital, Bath; late House Physician St. George's Hospital, London.

Oct. 12th, 1897.

THE PREHENSILE POWER OF THE HANDS OF THE HUMAN INFANT.

To the Editors of THE LANCET.

SIRS,—Will you allow me space in which to draw attention to the above character, which was ingeniously brought forward five years ago by Dr. Louis Robinson, before it becomes accepted as an argument for the descent of man from the lower animals? It has enjoyed a singular immunity from criticism, as far as I can learn, which seems hardly deserved. The observations made by Dr. Louis Robinson put into scientific form the previous experiences of mothers, nurses, and others who had occasion to notice the habits of the human infant, and none need dispute their substantial correctness, though I must add my negative testimony, which extends over about the same number of human infants as Dr. Robinson examined. I can only say that as yet I have not found one infant which could support its own weight by a finger or other object placed in its palm. Frequently an infant has partially, but never entirely, supported its own weight. However, this is only a matter of detail. Those children which I examined were nearly all of the well-to-do classes, and it would be worth enquiring whether, on the theory in question, these were more or less "ancestral" than those which Dr. Louis Robinson examined. Broadly speaking, the facts of the latter may stand undisputed. But what of their significance? They were sufficiently convincing for the late Professor Romanes, and perhaps ought to be so for us. He even thought fit to stereotype them in his able controversial work "Darwin and After Darwin." This prehensile power of the hand of the infant is certainly a reflex phenomenon, and is in excess of the muscular power of the infant in most other directions. Is it then an ancestral legacy from the "grapnel-like" grasp of the common ancestor of man and the higher apes—Pithecanthropus ignotus we may call it—still shown in the human infant as a "vestige" of a formerly useful power, or is it a mere physiological character, exactly what one would expect if man never had any other than human ancestors? I submit that the latter is the more reasonable view and propose the following simple explanation. During the last four or five months of fœtal life the familiar "movements" felt by the mother are very frequent, almost constant. These are undoubtedly of a reflex character, and if one may judge from those of the last two or three months are entirely caused by the lower limbs of the fœtus, except perhaps in those few cases in which the fœtus lies in an abnormal position, when the upper extremities may be more in motion than usual. During all these months the upper extremities must have had little or no muscular exercise through reflex influence, certainly not the flexor muscles, and the hands (fortunately for the maternal tissues) none at all. When the child is born one would expect nothing else than that the inherent power of grasp possessed by the hands, which is to be so conspicuously employed in later life in a purposive manner, should be disproportionately excited to reflex action by stimulation applied to the palm of the hand, and that the flexor muscles of the forearm and arm should react strongly to the influence of tension for the first time. At about the age of three weeks this disproportionate power of grasping begins to disappear and is gone, as such, in two or three months, when the novelty of reflex stimulation of the palm and flexor muscles has worn off. The explanation of this disappearance given by Dr. Louis Robinson is most lame—viz., that it is due to the rapid increase of fat and weight which takes place, and to failure to exercise the power. The latter has nothing to do with the point, for no practice of any kind served to maintain or originate the power. As to the second point, we know that an average infant, weighing seven pounds at birth, would weigh seven pounds, or less, after one week of life; after two weeks, perhaps seven and a quarter pounds; after three weeks seven and three-quarters, and so on, gaining weight at the rate of half a pound a week, or if an exceptional infant it might gain a pound a week. Thus, at the age of three weeks a seven-pound infant would have put on weight to the extent of three-quarters of a pound—a very "drop in the ocean" when compared with such striking muscular power as the human infant manifests in this particular performance. But this remarkable power of the infant in the matter of prehension does not stand alone among most powerful reflex actions which it is able to perform immediately it is

born. The post-natal cry of a baby in many cases is something startling for power and endurance. To take an extreme case, I remember one infant which, from the moment of its birth, for a solid three-quarters of an hour roared without five seconds' cessation, a feat which no strong man could perform. I remember it the more vividly by reason of the concurrent fact that the mother was all that time in a dangerous state from hæmorrhage. This was an exceptional feat, but purely a reflex phenomenon like that of Dr. Louis Robinson's infant which supported itself for "two minutes thirty-five seconds"! In most cases the power and endurance of this cry, shown for the first few days in most vigorous infants when their skin is exposed to the air for washing, is very striking, even if it disappear earlier than the prehensile power of the hand. The power of sucking possessed within five minutes of birth by a strong child, and the cry for food which so soon shows itself loud and strong, are only two more among many reflex phenomena which rank in significance or insignificance beside the particular character before us. There is also a phenomenon which the foot of the human infant manifests corresponding to that noticed in the hand by Dr. Louis Robinson which one is surprised that he did not proceed to investigate. I have examined the prehensile power of the toes of many infants ranging from a few hours to a year in age, and find it singularly constant. It is excited by placing a small finger or similar body in contact with the flexor surfaces of the toes, which immediately close upon the finger in an attempt at prehension. This muscular act is proportionately as strong and as quickly evoked in a child of a year old, when it is passing from the purely reflex to the purposive phase of life, as in a new-born infant. In later life, in the case of savages and others intelligent enough not to cramp their feet by tight boots, about the corresponding degree of prehensile power of the toes can be exercised voluntarily. One would like to know whether or not Dr. Louis Robinson would look upon this reflex action of the infant's foot as supporting the "vestige" theory. Is this also the vestige of a prehensile power which man's simian ancestors exercised in the course of their arboreal life? If it be so it behaves in a very different manner from the analogous phenomenon in the hand whose course is so brilliant and brief. The hand of man and the ape are not so strikingly different in structure or function, but the differences between the foot of man and that of the ape are profound as to structure not less than function, and these were strongly brought out by Sir William Turner in his address on Anthropology at Montreal this year. Sir William Turner there points out that the prehension of the foot of the ape is[1] more important than that of its hand, the pollex in apes being feebly developed. If man had any genetic connexion with the ape surely the "vestige" of prehension of his foot ought to be a more marked character than the corresponding "vestige" pertaining to his hand. It is not so, for, as pointed out, it is very feeble, it is persistent and varies little for a year or more, it corresponds closely to the degree of prehension which adults can exercise voluntarily, and it never is accompanied by an attempt on the part of the hallux at opposition, an act for which the anatomy of the foot in man is eminently unfitted. Moreover the difference between the response to reflex stimulation of the muscles of the upper and lower extremities in an infant is very striking, and to a degree which bears out the suggestion as to previous use or non-use during fœtal life which I have ventured to put forward. The slightest stimulation to the prehensile muscles of the hand and the flexor muscles of the arm and forearm, in attempted extension of the part, produces a prompt and strong resistance, as Dr. Louis Robinson has shown. It is not so with those of the lower limb, for in addition to the feeble prehension exercised by the toes, the muscles which flex the thigh upon the pelvis and those which flex the leg upon the thigh show a strange indifference to attempts at extension. The novelty of this class of action has worn off. The evidence which these phenomena are supposed to afford for the descent of man from the ape has indeed been overdone, and it resembles some of the other sensational lines of evidence of this class which are open to provokingly simple physiological and anatomical explanations, Darwinism apart. On this account I venture to think some expression of opinion upon this interesting subject is desirable.

I am, Sirs, yours truly,

Sept. 25th, 1897. WALTER KIDD.

[1] Reported in Nature, Sep 2nd, 1897, p. 430.

"THE COMPARATIVELY STATIONARY DEATH-RATE IN PRIVATE OBSTETRIC PRACTICE."

To the Editors of THE LANCET.

SIRS,—A perusal of "M.D.'s" letter on this subject in THE LANCET of Oct. 2nd suggests to one what an advantage it would be both to the public and the profession if a supply of good obstetric nurses asking from six to eight guineas a month were available. The certificated nurse usually requires ten guineas, her travelling expenses (since she generally resides in a large town), and her meals apart from the servants, often an insuperable objection to the lady engaging her. I have spoken to many of my medical friends on the subject and they agree with me that in the usual two and three guinea midwifery cases the trouble and anxiety that accrue principally from the ignorance and conceit of the nurses in charge make these cases not worth the fee earned, but of course a man must be very strong to be able to refuse them.—I am, Sirs, yours faithfully,

Oct. 9th, 1897. G. P.

IMPERFECT VACCINATION: A CASE THAT WANTS A REMEDY.

To the Editors of THE LANCET.

SIRS,—There is a matter which it seems should receive the attention of the General Medical Council; I refer to the most unfair working of the Vaccination Act. Public vaccinators in the instructions issued by the Local Government Board are strictly directed when vaccinating to make not less than four insertions, and, of course, their work is periodically inspected, while it is a notorious fact that there are men in the profession who do not hesitate to make three, two, or even one insertion only, according to the caprice of the parents, as I am constantly asked whether I will not vaccinate in "one or two places only as Dr. —— does," and on my refusal the child is taken elsewhere. Surely it is high time that anyone who is authorised to give a certificate of successful vaccination should be bound to conform to the Local Government order, and also if proved to be guilty of such unprofessional conduct should be censured by the General Medical Council, for not only is the public vaccinator mulcted of his fees for doing his duty, but the vaccination must be in many cases inefficient and hence calculated to bring it into greater disrepute.

I am, Sirs, yours faithfully,

Oct. 14th, 1897. A PUBLIC VACCINATOR.

THE EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE.

(BY OUR SPECIAL SANITARY COMMISSIONER.)

PERHAPS one of the most significant recent items of news from Maidstone is the announcement that two extra assistant sanitary inspectors have been appointed. Their special mission will be to make a house-to-house inspection of domestic drains. This sounds somewhat like closing the stable-door after the horse has been stolen; but, to judge by the continuation of the epidemic, it would seem as if there was more than one horse to be stolen. Also the same criticism may be made of every measure taken when once an epidemic has broken out. The importance of the appointment of extra sanitary inspectors rests in the double fact that it is a practical admission that there may be something else than the water-supply which has favoured the spread of typhoid fever; and, secondly, it shows that the general sanitary condition of the town is not as perfect as was at first inferred. Undoubtedly a great number of inhabitants of Maidstone were under the impression that the town was well drained and exceptionally healthy. Such a conviction cannot have been based on actual knowledge of the facts, but is more likely to have arisen from the favourable figures published as to the death-rate. The birth-rate was for 1896 equal to 23·91 per 1000, and the death-rate 13·47, and the medical officer of health in his last annual report adds that consequently "the total loss by

death in an equal number of persons, in all respects comparable as to age and sex, was 862 in Maidstone, as against 1000 in England and Wales at large, by which it is seen that we continue to hold the same enviable position for comparatively low death-rate." As against this it should be noted that the birth-rate is low and the zymotic death-rate is high. The average birth-rate at Maidstone for the decade 1870–79 was 32·50 per 1000 and for the decade 1880–89 it was 31·17, while last year it was only 23·91 per 1000. The zymotic death-rate was equal to 2·01 per 1000, the corresponding rate for England and Wales being 2·18. It is obvious that in a small country town like Maidstone the death-rate should be very low, for those special conditions which in great industrial centres favour a high death-rate should be absent. There was last year an excess of measles, 1·31, as compared with 0·56 for England and Wales, and of diphtheria, 0·44, as compared with 0·29 for England and Wales. The other zymotic diseases were considerably below the average for England and Wales. When we add to these figures, which are not altogether satisfactory so far as preventable diseases are concerned, the devastation made by the present epidemic there is evidence enough to justify the suspicion that the general sanitary condition is not all that could be desired. Under these circumstances we therefore welcome the announcement that two extra sanitary inspectors have been appointed.

Letters published in the local papers bear further witness to unsanitary conditions. Thus the *Kent Messenger* of Sept. 5th contained a letter from a local builder, Mr. J. H. Bridge, in which he advises everyone not to stand near the street sewer ventilators, which he qualifies as "a vile nuisance." He also observes that the sanitary authorities insist on a ventilating pipe from the house drains being carried up to the highest part of the buildings. But they also require an intercepting trap placed some five feet from the front door and connected with a fresh-air grating, "which every practical man knows full well is half the time discharging sewer-gas, while the fresh air is going down the higher pipe." Certainly if the sewers are cut off from the smaller ventilators they require a system of ventilation of their own, and under this head Mr. J. S. Anscomb, formerly mayor of Maidstone, writes in the *Kent Messenger* of Oct. 2nd that some years ago he recommended that all rain-water pipes "should have sealed joints the same as soil-pipes and communicate with the sewer. This, calculating two to each house, would open 10,000 ventilators, which, although small in diameter, would represent a capacity of 7000 superficial feet, and every ventilator, however small, in my opinion must be of importance." As there are now over 6000 houses in Maidstone the ventilation would be one-fifth more than the figures given by Mr. Anscomb. But if the sewers in the first instance had been properly laid and built, ventilation, though equally necessary, would not occasion the nuisance which is now the subject of many complaints. A self-cleansing sewer does not give off offensive odours.

A great deal has been said concerning the hop-pickers who came from the slums of London and are supposed to have contaminated one particular water intake—that of Tutsham-in-Fields. This source of supply is stated to have been cut off on Sept. 20th. If this had sufficed to put a stop to the epidemic there should now be no more or only very few fresh cases of fever. But if the yield from the Tutsham springs was cut off the mains were not disinfected, and there was some ground for supposing that perhaps some of the other sources of the Farleigh supply were also contaminated. The Special Sanitary Committee of the Maidstone District Council wrote on Sept. 25th to the water company asking them to cut off the entire water-supply known under the generic term of the Farleigh Supply. The Council held a special meeting on the 29th, and at that date this letter had not even been acknowledged. It was further announced that the directors of the water company were not going to meet before the ensuing Friday. What excuse was given for such delay has not yet transpired. On the Friday in question the directors of the water company decided to cut off the entire Farleigh supply, and this, it is believed, was done on the following day, Oct. 2nd, though, according to another account, the water was cut off on the 30th, the day previous to the meeting of directors. But again, on this as on the former occasion, the mains were not disinfected, so that the pure supply from Boarley and Cossington, where the water is derived from the chalk, passed through the pipes that had probably been rendered impure by the former presence of the Farleigh water. Dr. Theodore Thomson, the Local Government Board inspector, is stated to have urged that the pipes should be disinfected with lime previously to receiving a new and pure supply. This, however, was not done and the epidemic still continues. Well may the inhabitants of Maidstone clamour for a public inquiry into all these circumstances, for there is certainly urgent need of a full and ample explanation. Doubtless the Local Government Board is justified in replying to the request made for a public inquiry that "they do not consider that the holding of a public inquiry would in any way further the investigations of Dr. Thomson," but they have less reason to add "or assist in dealing with the outbreak." Even this last sentence, however, may be true so far as immediate measures are concerned; but it should not be forgotten that ultimately it is the electors who will have to deal with the matter, and how are they to know for what measures to vote if there is not a public inquiry?

The figures as to the number of notifications, it is urged, look more favourable if instead of the daily returns the weekly averages be taken. Thus for the first week, beginning Sept. 16th, there was a daily average of 67 cases, for the second week of 31 cases, for the third week of 59 cases, and for the following six days the average is only 23 cases—an average, however, that will be somewhat increased by the later returns. These figures seem to indicate that the epidemic is gradually subsiding; but if it is entirely due to the water-supply, and that water-supply has been suddenly cut off, should not the epidemic cease, if not with equal, at least with corresponding, suddenness? That this is not the case suggests that the mischief due to the water has not been entirely removed, that the pipes are still infected, or that there are other causes at work besides the water-supply. Food kept in houses and placed close to inefficiently trapped and flushed drains may be contaminated. Some little time ago it was discovered that a vendor of penny ices in Maidstone used to store his ice in his closet as a convenient place because he could easily drain the water from the melting ice into the pan of the closet. Now that there is so much typhoid fever in the town the closets are likely to be exceptionally dangerous. Let us remember also that hop-pickers did not confine their attention only to the hop-fields. It is computed that about 10,000 hop-pickers travelled through Maidstone last season; many of them lodged in Maidstone. There are seventeen public-houses that take in from four to fourteen men lodgers, and there is a large number of registered fourpenny common lodging-houses. One proprietor of these common lodging-houses let out 500 beds in the course of one month during the hopping season. Then there are many unregistered houses that take in hop-pickers. The tramps frequent the south-eastern district in numbers, and here there have been a great many cases of typhoid fever. The district council so far recognised this danger that they decided to build a municipal common lodging-house, but some seven months ago the matter was referred back till a site in a suitable position at a moderate price could be found. Nothing has been done since then. If, previously to the contamination of the water-supply, some portion of the drainage system had received typhoid dejections from these hop-pickers or from other persons, and if the drains are not properly cleaned and ventilated, mischief might be done and its effects might not be entirely removed the moment the water-supply is altered. If the sewers are not only deficient in respect to their ventilation and cleanliness, but also leak and contaminate the surrounding subsoil, then we have unhealthy and dangerous conditions which will only be modified with the advent of copious rains or with the rebuilding of those sewers that leak. All these are considerations which gain in importance as we find that the epidemic still lingers in spite of the alteration of the water-supply.

MEDICAL AND SCIENCE STUDENTS AND THE INDIA CIVIL SERVICE.

(FROM A CORRESPONDENT.)

THE advantages of the Indian Medical Service are sufficiently appreciated by students of medicine of the United Kingdom. It is probable, indeed, that many more would compete for these valuable appointments, were they fully aware of the stress and the hardship of competition in the

medical profession at home. Still, the number of candidates competing is adequate testimony to the knowledge of the advantages of the Indian Medical Service among the class from which competitors should be drawn; and there is no ground for extending to this service the criticism and charges which have for some time operated as a deterrent against properly qualified men offering themselves freely and numerously enough for corresponding posts in the army. But we are here concerned with a service even more dignified, responsible and pecuniarily attractive than the Indian Medical Service—I mean the India Civil Service itself. In directing the attention of "medical students" (as appears in the heading) to this service I am well aware that I am raising hopes where they have not been wont to be entertained, and, further, that I am even entering upon ground which is *terra incognita* to the bulk of the "medicals" and science men of our universities and colleges. Let it be understood, then, that I am dealing with facts and not mere conjecture. And, first, be it remembered that the India Civil Service is still the prince of public services open to competition. The initial salary is good—£300 to £400, according as the rupee is reckoned for England or for India. Opportunities for rapid promotion may not be as plentiful as they were under the old *régime* before the days of unrestricted competition, but they are regular and are deemed satisfactory. Entering the service when he is between twenty-one and twenty-three years of age, the successful candidate is at once launched on a career in which he is spared all anxiety in the matter of a competence both in active life and on retiring. When he is still under fifty he may leave the service with a pension of from £800 to £1000 per annum. Such is the epitome of the normal career—the lot of the man who has not been favoured of fortune, but has merely "gone through" the service and done his plain duty from day to day.

That this career, with prospects even in excess of those just sketched, is well within the reach of the "reading" men among our medical and science students it is the special object of this article to show. The character of the India Civil Service examination was changed by the authorities five years ago. The age-limits were raised from 17–19 to 21–23 years, and the subjects of examination and the marks assigned to each were greatly modified. It was the intention of the authorities that the university student might enter himself for the examination without breaking the line of study which he was following for a learned profession or for his own culture at college. Hence the very wide scope of the examination, and hence also the non-obligatory rule in respect of subjects: no subject is compulsory; a candidate may take up as many or as few as he pleases, and with the exception of English composition and mathematics the marks assigned to candidates in each branch are liable to deduction in order to secure that "a candidate be allowed no credit at all for taking up a subject in which he is a mere smatterer." The Oxford classic, accordingly, does not take up mathematics; the Cambridge wrangler shuns Greek and probably Latin; the History "First" tries to score something in classics and to be strong in his own special branch as well as in the cognate studies—political science and political economy, and perhaps English or Roman law. Under these conditions the medical and science student has an equal—an "even"—chance with the classical, the mathematical, or the history man, perhaps even a superior chance. A few facts and figures will make this clear. To Latin and Greek 750 marks each are assigned, and an exceptionally strong Oxford classic will make from 700 to 850 in the two combined. To mathematics (which only very fair mathematical students attempt) and to advanced mathematics 900 marks each are assigned, and a very strong Cambridge man may be considered safe for from 800 to 950 in the combined subjects, to judge by the marks obtained during the last four years. Both the classical and the mathematical man have a number of subsidiary or cognate subjects in which they naturally offer themselves for examination. Now, in addition to the three groups of students whose interests, as we have stated, are consulted in the competition—the classical, the mathematical, and the history man's—there is another. Seven subjects are grouped together in the syllabus of examination under the head of natural science. They are the following: elementary chemistry and physics, higher chemistry, higher physics, geology, botany, zoology, and animal physiology. To *each* of these 600 marks are assigned—subject, as usual, to a deduction in the case of the marks gained by each student, to ensure that the mere smatterer shall be discountenanced and discomfited. It is evident that, were a student free to offer all these sciences as given above he would be at a very material advantage compared with the non-science man. It is, therefore, provided (1) that not more than *three* of them can be taken up; and (2) that elementary chemistry and elementary physics (one subject) may not be taken up by those who offer either higher chemistry or higher physics or both. Even with this expedient and reasonable restriction, however, the science man has a fair field—perhaps, indeed, favour, if one may reckon from the marks obtained by those few who have taken up this branch in the examination.

Every year a number of our best reading medical students find themselves unsuited to the profession for which they are registered students. Some of them are drawn to science and the more or less uncertain prizes (in the worldly sense) which its pursuit promises to the fit; others are stranded. Not only, however, on those who withdraw from the professional study of medicine, but on all students of medicine of more than average merit I would impress the followingt definite facts and conclusions:—1. For the last three years every sixty appointments in the India Civil Service have been offered annually; this year (August—September) the number is sixty-six. Besides, there are now offered, as the result of the same examination, Eastern cadetships (for Ceylon, &c.) and "Class I." clerkships in the Home Civil Service, which, taken together, make about thirty appointments more. 2. The medical student at the close of his second *annus medicus* is very often just of age to compete—twenty-one years; and out of his prescribed professional course of study during his first two years he can offer three subjects conveniently, since he has four at his command—elementary chemistry and physics, botany, zoology, physiology. 3. The intending candidate will have to specialise on his three sciences. He will have to study the subjects carefully for himself and be guided by good men. But he may rest assured that the questions set are fair questions, and the practical examinations should especially commend themselves to the student who knows his work. 4. An excellent man may make 1100 to 1250 marks in his three sciences. Several have made 400 in a science subject already. Like the classical man and others the science man has other subjects on which to draw—say, English composition (as a certainty), for which 500 marks (without deduction for "smatterers") are allowed, French (500), German (500), and political science (400), which subject almost all take up. 5. In 1896 the last successful candidate for the India Civil Service made 1492 marks; fewer were required for an Eastern cadet appointment.

The writer will give an illustration from the case of a successful candidate last year, the particulars of which are well known to him. It is not a case of a medical student, for he believes that owing to ignorance of the conditions of the examination no medical student has yet competed. But on that very account the instance is the more striking. The candidate in question had no leanings towards science. He was a history man, strong in English history, but not sufficiently strong in the other history subjects and in cognate branches to warrant his dependence on these solely. In November, 1895—that is, ten months before the examination—he began geology and botany. During these ten months he had to keep up his work in English history, read widely in Roman and general modern history (most of it new ground), begin political science (apart from a general knowledge of the subject from history), and brush up Latin and French, which he had not touched for two years. Yet with all these drawbacks and without going through any university course in the two sciences mentioned the candidate in question scored an average of 200 in each of them—rather more in geology, rather less in botany. Had he specialised in science he might easily have doubled his marks in these two subjects.

Hitherto (since the coming into force of the revised regulations) the two most outstanding features of the India Civil Service examination have been the predominance of Oxford and Cambridge men in the successful list and the virtual absence of candidates offering natural science. It is the main purpose of this article to remedy this defect by calling upon the student of natural science to claim his place in this examination. If he is a medical student and is drawn by the examination to the study of one or two subjects which fall rather under *belles lettres* than within the

scope of his professional curriculum he may not have reason to regret his decision, even should he not be successful. Wider reading, more liberal interests, and some sound pretensions to culture are just what most of our students of medicine especially stand in need of at the present day.

What has been said applies still more forcibly to "students of science"—those studying for B.Sc. and similar examinations—in our various colleges. The published reports of the examination during the last four years prove unmistakably that the character of the examination and the advantages of the service are to them practically unknown. And yet the science man is usually also a mathematician; he prides himself on *knowing* his physics, his chemistry, his geology, and his botany; he should be able to write a tolerable essay on one of the three or four themes prescribed with commendable catholicity of choice; he is not generally a "duffer," and he should be able to find in the long list of the examination subjects one or two subsidiary ones by which to make success assured. Let him do so.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Musical Festival.

THE proceeds of the triennial musical festival go to the General Hospital and form a substantial element in the funds of that charity. This year the programme was arranged for the 5th, 6th, 7th, and 8th of the present month. There was a large attendance, favoured by fine weather, and the highest musical talent. The total receipts amounted to £13,874 4*s.* 11*d.*, being £635 more than the last festival. It is estimated that the sum of £5000 will be handed over to the new hospital committee; it will be gladly welcomed in the face of the numerous and heavy expenses incurred in the removal from the old building.

Sudden Death of Dr. F. W. Barry.

Dr. Barry, senior medical inspector to the Local Government Board, was found dead in a bedroom of the Grand Hotel this morning. He was expected at the parish offices for official purposes and left word to be called at 7.30 in the morning; no reply being received to this summons the room was entered, when Dr. Barry was found lying upon the floor dead and cold. An inquest will be held in due course. Dr. Barry's high attainments in sanitary science and his ability as an administrator will cause his death to be deeply regretted apart from the sad circumstances of its suddenness.

Midland Medical Society.

The inaugural meeting of the present session is announced for the 21st inst., when Sir Richard Thorne Thorne will deliver an address on "Soil and Circumstance in their Control of Pathogenic Organisms." It is expected that a large gathering will be present.

Death of the Coroner for South Staffordshire.

Mr. Edwin Hooper, whose death occurred on Oct. 3rd at the age of sixty-six years, held the office of coroner for South Staffordshire for a period of thirty-seven years, and for the borough of West Bromwich since it was constituted a county borough. For some years Mr. Hooper had been the subject of cancer of the tongue, for which he had undergone several operations. His death finally was attributable to pneumonia. It is estimated that he held over 13 000 inquests during his tenure of office. His duties were conducted with dignity and clearness of judgment. Already there are several candidates in the field, two of whom are medical men practising in the locality.

A Sad Coincidence.

An inquest was recently held on the body of a boy, aged seven years, whose death occurred under singular circumstances. The child came with his father and mother into the town. In a crowded street the father was knocked down by a cab; in the confusion which followed the child was run over by a cart and killed—a disastrous ending to the visit.

The Workhouse Infirmary.

An unpleasant incident has led to the resignation of the infirmary management committee. For a long time the committee state that they had felt that they had not the confidence of the board in their authority over the scrubbers and charwomen employed. These servants number about forty and are paid at the rate of 2*s.* a day, the annual sum for scrubbing alone amounting to about £1200.

Oct. 12th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Large Gifts to Owens College.

THE half-yearly meeting of the Court of Governors of Owens College was held on the 5th inst., when the chairman, Mr. Alderman Joseph Thompson, who regretted the unavoidable absence of the Duke of Devonshire, said that he had three very important and gratifying announcements to make. Mr. R. C. Christie, for long a member of the Court and the Council of the college and one of its most generous benefactors through his gift of the building of the Christie Library, had now given one-third of the balance of the estate of the late Sir Joseph Whitworth—as one of the three residuary legatees—amounting to not less than £50 000, and probably somewhat exceeding that sum. It would enable the Governors to complete the quadrangle and erect a college hall. The chairman further announced that two friends of the college who did not for the present wish their names to appear had offered through the Principal sums of £10,000 and £5000, the first for the erection, and the second towards the maintenance, of suitable buildings for the physical laboratory of the college. A further sum of £5000 would be needed to provide fully for the maintenance of the laboratory, and this the chairman hoped the college would in some way obtain. Another very welcome gift had been made by Mr. Edward Holt, one of the city councillors, who had given £1500, the cost of the new gymnasium. In a resolution thanking the donors of these munificent gifts, moved by Sir Ughtred Kay-Shuttleworth and seconded by the Principal (Dr. Ward), hopes were expressed that the council would take steps "to associate the name of Mr. Holt in some permanent manner with the new gymnasium." A resolution was also moved by Sir W. H. Houldsworth, M.P., and seconded by Sir Henry Roscoe, expressing the great regret of the Court at the "impending resignation of the distinguished principal of the college, Dr. A. W. Ward," and desiring to place on record its sense of "the immeasurable value of his services for more than thirty years as professor and eight years as principal." Mr. Alfred Neild and Mr. Thorburn supported the resolution, the latter speaking as a representative of the *alumni* of the college.

Salford Board of Guardians.

At the last meeting of the Salford guardians it was resolved: "That in future, with the consent of the Local Government Board, the period of training for probationer nurses be three years instead of two as heretofore, and that the scale of payment be as follows—viz., first year, £8 8*s.*; second year, £12 12*s.*; third year, £15 15*s.*" At 2 P.M. the meeting was made special to consider the best means of relieving the congested state of the workhouse and infirmary. Mr. H. Jenner-Fust, jun., general inspector of the Local Government Board, and Mr. W. M. Moorsom, assistant general inspector, were present. After some discussion it was resolved: "That a new workhouse be at once proceeded with, and the Sheffield system of scattered homes for children be adopted experimentally." In the course of the discussion Mr. Jenner-Fust addressed the board in favour of a new workhouse—for which, indeed, the land has been bought—and discountenanced the amalgamation of the workhouse and infirmary, and said that the epileptics should be lodged in new blocks. He also advocated entirely separate management for the two institutions. He was in favour of cottage homes—which one of the guardians characterised as "nothing better than juvenile workhouses"—where they had 370 children to deal with. The resolution was carried by 9 votes to 5.

The Police and First-aid.

Since 1891 it has been made a condition of service in the Manchester police force that applicants should pass an examination as to proficiency in the work of first-aid. The order was not made retrospective, so that many of the men have have not passed this examination. The week before last certificates for proficiency were given by the Lord Mayor to a number of the men. Out of 44 entitled to the certificate 41 were present. There are now in the force 775

of a possible 1037, or 74·3 per cent., who have passed the examination. This scheme might well be adopted all over the country. It would often be the means of saving life or limb, it would give increased interest to the work and tend to raise the tone of the men, and so ameliorate the policeman's lot which, it is said, "is not a happy one."

Unsound Meat in Salford.

A butcher in Salford was summoned to the Salford Police Court the other week for exposing for sale meat unfit for human food. The veterinary surgeon and meat inspector for the corporation said that he found eight pieces of meat exposed for sale which were quite unfit for food, and they were destroyed by order of a magistrate. The interest of the matter lies in this: that the defendant told the witness he bought the meat at the abattoir and gave 2*d.* a pound for it. According to the report there was no contradiction of this statement, and if the corporation abattoir was meant it suggests culpable laxity in supervision.

The Unsolved Sewage Question.

The majority of the members of the Manchester City Council visited the sewage works at Davyhulme yesterday week, at the invitation of the rivers committee, with the object mainly of seeing for themselves that the committee had done all that was practicable with the facilities at their command to purify the sewage of the city. Up to the present time the sum of £207,485 has been spent at Davyhulme, including the expenditure on the tanks and equipment, works in progress, and £24,500 for the new sludge steamer. There were differences of opinion expressed on the various schemes; some were in favour of the culvert, some were for deferring the matter for six or twelve months, and others, notwithstanding the object-lesson at Davyhulme, which was to have converted them, still maintained their opposition to the culvert. At a meeting of the rivers committee letters were read from eminent engineering experts who were, of course, in favour of the culvert, for it would be impossible for the engineering mind to resist the bewitching vision of a great sewer sixteen miles long. On the same day a meeting of the Mersey and Irwell joint committee was held, at which Mr. Killick, chairman of the consulting sub-committee, replied to a speech of Alderman Joseph Thompson at a meeting of the city council in which he had complained of the harsh treatment of the corporation by the committee. Mr. Killick said that Manchester had been treated like Salford, Bolton, Bury, &c., but had been granted extra time. He said, also, that it was a mistake to say that it was out of the power of the rivers committee to turn out a satisfactory effluent, for it had been done again and again when the sewage had been treated by precipitation and filtration. When precipitation alone had been used the effluents were much worse than the water of the Ship Canal into which they were turned. In connexion with the lamentations of Alderman Thompson, Mr. Killick made the suggestive remark that "it might be pointed out that Manchester had taken part in compelling authorities in the watershed to spend more money per head of the population than the highest estimates of the most costly schemes yet put forward for their own adoption." It should not be forgotten that Alderman Thompson is the vice-chairman of the Joint Committee, and so is not free from responsibility as regards this, and that he is chairman of the Rivers Committee of the Corporation, and so is in the interesting and perplexing condition of a man divided against himself. At a special meeting of the city council on Wednesday last a resolution in favour of promoting a Bill in the next session of Parliament authorising the construction of what a local paper calls "the great culvert" was adopted, there being three dissentients. The poll of the citizens is to take place about the end of the month and may lead to fresh developments.

Oct. 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal Commission on Tuberculosis.

THE Royal Commission on Tuberculosis paid a visit to Dublin on Oct. 12th and inspected the abattoir, the cattle market, and the fruit market. The members were received by Sir Charles Cameron and by the various officials connected with the markets, and were subsequently entertained at luncheon by the Lord Mayor at the Mansion House.

St. Vincent's Hospital, Dublin.

At the opening of the medical session at St. Vincent's Hospital on Oct. 5th Dr. Cox delivered an address on the grievances of army medical officers. Sir William Thomson, in moving a vote of thanks to the lecturer, made some very interesting observations.

The National Hospital for Consumption for Ireland.

The Marchioness of Zetland and Lady Milton, accompanied by Mr. and Mrs. Frank Brooke, visited the National Hospital for Consumption for Ireland at Newcastle, Co. Wicklow, on Oct. 7th. The party travelled by special train from Shillelagh, where the Marchioness is at present staying with her daughter, Lady Milton. After minutely examining the arrangements of the hospital, with which they were much pleased, the visitors returned to Shillelagh.

Imprisonment of a Medical Man.

An event, happily of very rare occurrence in the medical profession, took place at Lurgan Quarter Sessions on Oct. 7th, when Mr. James Millen Moore, L.R.C.P. & S. Edin., was sentenced to be imprisoned for one month in Armagh Gaol for an assault upon a boy who was in his employment. It would appear that the boy—between thirteen and fourteen years of age—went into Mr. Moore's employment in August, 1896, when he was a year younger. Mr. Moore, being dissatisfied with his conduct, ordered the boy on one occasion to strip himself in an outhouse, where he was beaten by the medical man on the naked back with a cane or other weapon. On another occasion being dissatisfied with the lad—and apparently, as the county court judge stated, he had cause to be—Mr. Moore made the boy strip with the exception of his trousers and shoes and had him tied to a post and beaten in a very severe manner. It was stated that the medical man acted *in loco parentis*, and that his father had given him authority to punish the boy. The case came originally before the Lurgan magistrates, who by a majority sent it for trial to the quarter sessions, where the grand jury found a true bill. Mr. Moore pleaded guilty, and for the defence it was urged that the sum of £28 which he had paid to the boy's father and the serious effect which the incident and the prosecution would for years have upon him as a practitioner and a representative public man more than atoned for his indiscretion. The county court judge and the magistrates present had a long discussion in reference to the merits and demerits of the case and they did not arrive at a unanimous conclusion, and the judge said in announcing the decision that he did not concur with it. At the same time, he was bound to give effect to the view of the majority of the magistrates, and that was that Mr. Moore should be kept in gaol for one calendar month without hard labour. Two magistrates, it was announced, did not concur with the decision and thought that Mr. Moore should be let off with a fine. A majority of the magistrates, the judge said, thought a month's imprisonment would be sufficient, but in his opinion a fine or one month's imprisonment did not touch the merits of the case, and he himself would have given a heavier punishment.

Epidemic of Typhoid Fever.

At the present time there is a widespread epidemic of typhoid fever in Belfast, and a large number of cases are being treated in the Union Fever Hospital and in the Royal Hospital. One of the dispensary medical officers asked his committee for further medical assistance, which was granted, owing to the large number of cases in his district. The Public Health Committee of the city at a meeting on Oct. 7th advised that the water retailed from the Cromac springs had not improved in quality and was unfit for human consumption. They pointed out the necessity for the regular cleansing of cisterns in houses and instructed their sanitary officer to have them inspected. They appointed a sub-committee to confer with Dr. Lorrain Smith, lecturer on pathology at Queen's College, with a view to arranging for the examination of forms of food, drink, and secretions bacteriologically in order that the origins of diseases might by this means be traced. There is a strong feeling that the Belfast Water Commissioners should publish fortnightly or every month an analysis of the city water (as is done in other towns) for the guidance of the public.

Belfast Royal Hospital.

Mr. Thomas Houston, M.B., B.S. R.U.I., has been appointed assistant gynecologist.

Belfast Lunatic Asylum.

At the usual monthly meeting held on Oct. 11th the new superintendent, Dr. Graham, in his report pointed out the want of baths, there being none whatever in either the male or female hospital and only four for the whole institution. The entire lavatory department is improperly constructed; there are no receiving, sorting, or airing rooms, and no disinfecting chamber; the washing machines are obsolete; and the drying closets are dangerous, so that if a patient tripped he or she would be burnt. The entire laundry department needs to be remodelled. The kitchen is unsuitably situated and deficient in culinary apparatus. There is no mortuary or proper receptacle for the dead. There is no telephonic, electric, or other mechanical means of communication between the medical officers' quarters and the hospital wards. A committee was appointed to look into the matter. A governor also suggested the desirability of giving the inmates better bread.

On the recommendation of the Lord-Lieutenant of the county the Lord Chancellor has appointed Mr. E. C. MacDowell, M.D. Dub., F.R.C.P. Irel., of Mall House, Sligo, a magistrate for the county of Sligo.

Oct. 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Pathogenic Rôle of the Dust in Living Rooms.

M. KELSCH and M. Simmonnin read before the Academy of Medicine an interesting communication upon the above subject. According to these observers, the floors of our dwellings are as fruitful and dangerous a cause of infection as drinking-water. As a matter of fact, with the exception of typhoid fever and cholera, which are almost always spread by means of water, by far the greater part of other common maladies, such as the eruptive fevers, diphtheria, pneumonia, and, above all, tuberculosis, almost always arise from germs preserved in dust, except when direct infection takes place. This view is specially applicable to dwellings where a number of persons gather together, such as public schools, workshops in large towns, hospitals, and barracks. There is always present in these surroundings the danger of a sudden outburst of infectious disease. Infectious epidemics which occur in barracks without having been imported from outside arise from the dust where lie hid germs from former epidemics, or those brought in by the shoes of men who have infected their foot covering from the dirt of stables or latrines. This theory is already a commonplace in military epidemiology. Everywhere the watchfulness of the commanding officer, guided and helped by science and the progressive zeal of the army medical department, pursues the solution of the double problem of the purity of water and the absolute asepsis of the "surfaces" on which live the bodies of men for whom he is responsible. The ideals of the "service de santé" with regard to inhabited places are backed up by sundry measures which no doubt have not yet arrived at perfection, but which surpass anything hitherto attempted with regard to this matter. Such measures are cleansing of the flooring which by age and long microbial infection is specially dangerous, or even relaying it according to special systems which afford facilities for rendering it aseptic; doing away with, or at least disinfecting thoroughly and often, the interstices between the planks; or finally making the planks impermeable by means of some substance which will at the same time fill up the holes and disinfect any dirt which may be lodged therein. Such are the means by which military hygiene carries on the strife, and not unsuccessfully, against the origins of disease in barracks. The rendering of planking impermeable has for some years past been carried out in a number of barracks, and many a proof exists as to the minimising of the chances of infection which this process offers. It has passed through the stages of doubt, the tentative stage, and that of careful study, and it is now decided that the best process is coal-tarring, a usage to-day widely spread throughout the army, for this method is the one that best reconciles the demands of hygiene with those of economy. "Coaltarisation" has had unfavourable criticisms here and there; but these are due less to the process itself than to its application by unskilled hands. The experience of the last ten years has served only to fortify the opinion of the military medical staff as to the pathogenic *rôle* played by the dust which lies hid in the planks. M. Laveran, who has been for many years a military medical officer, has given it as his opinion that "coaltarisation" is not enough and that the only real remedy is to do away with planking altogether.

The Serum Treatment of Leprosy.

Señor Olaya Laverde, of Bucadramanga, Columbia, has sent to the Academy a long communication on the serum treatment of leprosy. The method which he employs differs from that of the medical man at Bogota, inasmuch as he prepares his animals by means of subcutaneous injections of fluid from leprous tumours which have just been removed from patients in an active stage of the disease. These animals always experience a well-marked general reaction, which disappears completely at the end of from five to six days. The blood of these animals, drawn when they have fully recovered their health, is collected with antiseptic precautions and injected in the ordinary way; accidents incidental to the operation are unusual and unimportant. On the first injection the patients show a pronounced febrile reaction, with malaise, pain in the back and the abdomen, and sometimes diarrhœa; this reaction commences six hours subsequent to the injection, and after an interval varying from twelve hours to three or six days, according to the case, it terminates in copious perspiration, a general feeling of comfort, and recovery of appetite. The therapeutic results are very marked and extend to all the symptoms. The good effects on the nervous system, for instance, are shown by the disappearance of anæsthesia, wandering pains, palsies, and pains in the joints. The improvement in the condition of the mucous membrane is manifested by the renewal of nasal respiration, the disappearance of ozæna, anosmia, and blepharitis, and the healing of conjunctival and corneal ulcers. The results on the skin are that perspiration returns, the hair on the scalp, the chin, and the eyebrows grows afresh, extensive ulcers rapidly heal, and leprous nodules are absorbed. The bacilli which could formerly be found with ease in the parts of the skin infiltrated with leprous nodules also disappear. The duration of the treatment is from three months to one year at the most. The good effects observed have been fully maintained in sixty cases up to the present time, and six of the patients may be considered to be cured, as a year has now elapsed since their restoration to health, but time alone will show whether the success obtained is permanent, and whether the majority of the patients will be thoroughly restored to health or only improved. Ordinary therapeutic measures, such as the actual cautery, may be employed at the same time as the serum treatment; the patient's food and general hygiene should also be attended to. The author makes special reference to "lavages du sang," by which he means large injections either of normal serum into the cellular tissue or of artificial serum into a vein; these injections seem to be valuable adjuncts to the serum treatment.

The Charge Against a Medical Man.

Dr. Laporte will appear before the police-court in a few days on a charge of homicide by imprudence. The various medical societies of Paris continue to take the utmost interest in his case, the decision in which will be of much consequence to all surgeons and accoucheurs. The medical society of the seventeenth arrondissement, where Dr. Laporte lived, the society of the observatory, the society of French medical practitioners, &c., have signified their disapproval of the proceedings. Surgeons and accoucheurs have written to the ordinary newspapers giving accounts of situations similar to that in which Dr. Laporte found himself, and taking credit to themselves for acting as he did—that is to say, for making use in time of need of such every-day instruments as happened to be immediately available. This unanimity of the profession seems to have acted favourably on public opinion and to have diminished the hostility to medical men which has been so prominent in the newspapers for some time past. Dr. Variot, physician to the Hôpital Trousseau, has written a strongly-worded letter, which all the papers have published, and in which he blames the experts consulted by the magistrate for not having at the outset declared that the case was not one which called for the immediate arrest of the accused.

Oct. 11th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The White Death.

"LA Morte Bianca" is not likely to figure in the programme or the discussions of the Eighth Congress of Internal Medicine, which holds its sittings in Naples from the 20th to the 24th inst. And yet, all too prevalent as it is in Italy, it prevails in most typical form in Naples itself. "The White Death," less swift in operation than its "black" counterpart, numbers more victims in the long run, and, even when it does not shorten life prematurely, its "conditions precedent" do much to impair the survivors' organism and tell disastrously on his offspring. But whence the name and what does it connote? The name is given by Dr. Achille Spatuzzi, professor of hygiene in the Neapolitan School, and the fact it describes may be found in his fascinating if melancholy work, "Saggi di Demografia e d'Igiene per gli Ufficiali Sanitari" (Essays in Demography and Hygiene for Sanitary Officers). Another writer on the theme is a colleague of Professor Spatuzzi, also a physician, Dr. Colajanni, professor of statistics in the same seat of learning, and it is his most recent deliverance on it that now concerns me. Much talk, he says, in the press, among the public and in Parliament, has been caused by the "strage degli innocenti" (slaughter of the innocents) disclosed last summer in the Brefotrofio dell' Annunziata; but this mortality of illegitimate foundlings, he continues, prevails in Italy "sempre e dappertutto" (always and everywhere) and need not distract attention from the "total mortality of the people of Naples." While throughout the kingdom the death-rate conspicuously declines, as infective diseases are more and more successfully combated, "the general specific mortality of Naples among the great civilised cities remains characteristically unique." The mean death-rate in Italy—a mean which takes account of deaths by malaria, pellagra, and by the chronic malnutrition of so many unfortunate regions—has sunk in a few years from 29 per 1000 to below 26. That of Naples, on the other hand, from 1879 to 1895 shows but insignificant oscillations—from 31·9 to 29·3—"an oscillation," he says, "indeed insignificant, for no further back than 1893 there was a mortality of 30·6—indeed insignificant," he proceeds, "if we reflect that in the comparatively rich quarter of San Ferdinando it sank to 18·2—that is, to proportions approximating those of civilised capitals, while in the wretchedly poor quarter of San Carlo all' Arena from 1881 to 1892 it had risen from 27·7 to 32·1. The difference," continues Professor Colajanni, "in mortality between rich quarters and poor quarters is indeed deceptive, though well enough known; but it may be profitable to illustrate it for Naples in one of her exceptional moods. During the cholera visitation of 1884 in the rich quarter of San Ferdinando the mortality scarcely touched 26·2 (the present mean in Italy), while it reached 47·4 in the Vicaria, 59·7 in the Pendino, and 64·4 in the Mercato." But (the reader may interpose) "all this is death in general; how about the 'White Death'?" Let him hear Professor Colajanni: "The foreign visitor, comfortably lodged and entertained in the principal hotels, is as safe on the lovely Neapolitan bay as in any European city; infective diseases, to which the stranger is most liable, are steadily declining in Naples; typhoid fever, with the Serino aqueduct bringing in pure water in any quantity, has almost disappeared. But 'la morte bianca' which reaps its thousands in the Neapolitan slums is the death by inanition and exhaustion; it is the death by slow degeneration, by misery, by nutrition of the worst kind, and even that defective; it is the death preceded always by anæmia, by chlorosis, by 'dusky pallor,' it is this death which marks a steady rise. Take the following figures by way of proof. In 1873 the deaths associated with congenital deformity (*vizi di conformazione*) were 131; in 1896 they were 240. Again, the deaths by tuberculosis in 1873 were 1216; in 1896 they were 1812; this, too, with no corresponding increase of population to account for it." There you have the "White Death" according to Professor Spatuzzi and Professor Colajanni, eloquently indicating physical degeneration, general and progressive, going *pari passu* with the moral degeneration which yields precocious delinquency as well as adult crime so alarmingly. Leading up to "the White Death" is the malnutrition which, though copiously illustrated in the works of Somma, Spatuzzi, Manfredi, and other Neapolitan hygienists, does not detain Professor Colajanni, who hastens on to the "material conditions of habitation" under which the poor of Naples live or rather die. London, for example, has 196 inhabitants for each square kilometre. Paris 265, Rome 280, Turin 340, Naples 939 and in her Pendino quarter 1254! "There is no hyperbole," he adds, "in saying that the Neapolitan population lacks air, oxygen, light, and that it huddles together in houses which are not human dwellings, but wild beasts' lairs." The children who go from these dens to schools make little change for the better as to ventilation. Professor Fazio, in his report to the Minister of Public Instruction, describes these schools as no better than they were demonstrated to be by a lamented Neapolitan philanthropist, the common councilman, Signor Casini, "omicide, costituenti un' offesa alla civiltà ed all' umanità" (homicidal, constituting an offence to civilisation and humanity). Professor Colajanni, whom no one will suspect of reactionary sympathies, adds that sixty years ago the illustrious Dr. De Renzi (it is mostly the medical man who plays the philanthropist in Italy) protested against the "condizioni tristissime" (deplorable circumstances) in which Naples languished under the Bourbon, whose Government resolved itself into the three f's—"feste, farina, e forche" (entertainments, meal, and gallows). But he asks, Is she much better off now? The "gallows" has been abolished, "meal" is diminished to starvation point, the "entertainments" continue, mostly in the form of the unveiling of monuments to the "heroes of the revolution," whose "commemoration" has already cost the country milliards of lire. Be it the task, he concludes, immediate and effective of the new *régime*, whether parliamentary or municipal, to redress the balance in favour of "farina" at the expense of the "feste," confident that a better-fed, better-housed, better-clothed populace would be a worthier commemoration of those heroes than all the statues, memorial tablets, unveilings, and fireworks, rhetorical or pyrotechnic, with which it is vainly sought to scare the wolf of hunger from the house and the "White Death" from its inmates.

Oct. 10th.

Obituary.

FREDERICK WILLIAM BARRY, M.D., F.R.S. EDIN., D.P.H. CANTAB.

WE regret to announce that Dr. F. W. Barry, the senior medical inspector of the Local Government Board, was found dead in his bedroom at the Grand Hotel, Birmingham, on Tuesday last. The deceased was born at Scarborough (where his father was a town councillor) in 1850. He received his medical education at Edinburgh University where in 1876 he graduated as M.D., and took up the subject of public health immediately on being qualified, receiving the Diploma in Public Health from the University of Cambridge in 1877. His first appointment was as medical officer of health to the Craven Combined District of Yorkshire, an office which he filled from 1878 to 1879. In 1880 he was sent to Cyprus as superintendent of quarantine and of the Sanitary Commission. Here he did an admirable and useful work, and the census of Cyprus which was taken in 1881 was almost entirely his work, as well as the report upon the sanitary condition of the island for 1881. In July, 1882, he commenced his term of office at the Local Government Board, and a little later was called to the bar from the Middle Temple, and in addition was elected a Fellow of the Royal Society of Edinburgh. He was also elected Examiner in Medical Jurisprudence and Public Health at the Edinburgh University, and at the time of his death filled the same office at Aberdeen University. He leaves a widow and two children, a son aged nineteen and a daughter aged ten years. Dr. Barry had a wonderful faculty for collecting statistics and drawing valuable conclusions from them—in fact, he was, as one of his colleagues has said, the head of the intelligence department of the Local Government Board. Among the various reports which he drew up, besides the ones we have referred to above, we may mention the one written in coöperation with Mr. T. Gordon Smith upon "Back-to-back Houses," printed in 1888, while two reports of

his which have become classical are the "Report on an Epidemic of Small-pox at Sheffield during 1887-1888" and the "Report on an Epidemic Prevalence of Enteric Fever in the Tees Valley during 1891." Other reports which were very valuable were those upon "Cholera in England and Wales during 1893," the "Report on the Western Diffusion of Cholera during 1893," and the "General Report on the Sanitary Survey of the Coast-line of England and Wales for 1893-1894." Dr. Barry was very thoroughly examined before the recent Royal Commission on Vaccination, mainly with reference to the Sheffield outbreak of small-pox; and in the final volume of evidence just issued will be found his exhaustive and convincing refutation of the criticism which Mr. Alex. Wheeler had made on his memorable Report.

Some twelve months ago Dr. Barry met with a serious accident while travelling in Yorkshire. He was passing through a low stone doorway and thinking he had got completely through, raised his head suddenly and struck it against the lintel. Unfortunately for himself he was not so stunned as to be unable to continue his work, which he did for some ten days, but at the end of that time he was compelled to take to his bed, as symptoms of serious injury to the upper part of the vertebral column appeared. For some sixteen weeks he was kept in bed with his head and upper part of the spine kept completely at rest by means of sand bags. He was absent from his work for about seven months altogether, but had apparently completely recovered. Dr. Barry's loss will be severely felt by all his colleagues at the Local Government Board. He was extremely popular and kindly, a very hard worker, and a very charming colleague to work with.

The inquest was held on Wednesday last before Mr. Bradley, the Birmingham coroner, when the jury returned a verdict of death from natural causes.

EDMUND PERCIVAL FRANCE, M.R.C.S. ENG., L.R.C.P. LOND.

THE death of Mr. E. P. France occurred on May 20th, at Port Darwin, in Australia. Mr. France was surgeon on the Eastern and Australian Company's s.s. *Menmuir*, having left England in March, 1896, in the s.s. *Australia* of the same company. Returning to the *Menmuir* with some passengers on the night of May 20th the gangway to the ship was found to be very steep owing to the great fall of tide. According to the *Hong-Kong Telegraph*, from which we quote, Mr. France slipped from the gangway and fractured his skull against the wharf, death ensuing soon afterwards. Mr. France was educated at University College, London, where he held the appointment of assistant to the Professor of Physiology (Mr. Schäfer), with whom he did valuable research work on the brains of monkeys, the results of which were published in the Transactions of the Royal Society. In 1890-91 Mr. France was house surgeon to the North-Eastern Children's Hospital. In 1892 he was appointed principal medical officer to British North Borneo, a position he held for three years. In March, 1896, he joined the Eastern and Australian Company's steamers and remained with them till his death. His firm but kindly manners made him many friends and he was much esteemed by his patients.

JOHN COMELY WICKHAM, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

MR. WICKHAM, who died at his residence, Gordon House, Tetbury, Gloucestershire, on Sept. 30th, in his ninety-fifth year, was by many years the oldest resident in the town and was long and affectionately known as "old Dr. Wickham." He received his medical education at St. George's Hospital, London, taking the M.R.C.S. Eng. qualification in 1825 and the L.R.C.P. Lond. and L.S.A. in 1843. Fifty years ago Mr. Wickham went to Tetbury from Didmartin. He was formerly medical officer to the Tetbury Cottage Hospital and to the Tetbury Dispensary. Mr. Wickham will be much missed by his numerous friends and acquaintances in Tetbury and the surrounding district.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Rafael Branchat y Vime-Prada, Professor of Hygiene in the Granada Medical School.—Dr. Jean-Baptiste de Mayer, formerly a much respected Antwerp practitioner, at the age of eighty-two years.—Professor Max Burchardt, Directing Surgeon of the Ophthalmic Department of the Charité Hospital, Berlin, on Sept. 25th from a pulmonary affection at the age of sixty-six years. While serving in the army, from which he recently retired with the rank of surgeon general, he was stationed for a time at Königsberg, and he there attached himself to the university as *privat-docent*. His original work was carried on first on dermatological matters and afterwards in ophthalmology. He devised an erecting ophthalmoscope and published papers on the determination of the acuteness of vision and on the detection of malingering amongst soldiers by pretence of bad sight.—Dr. Hjalmar Heiberg, whose death is announced at the age of sixty years, was in early life a marine surgeon and after his return to Christiania acted as assistant to Professor Wrage in the Anatomico-pathological Institute of the University, becoming afterwards Professor of Pathological Anatomy. He conducted valuable researches on the bacteriological causes of puerperal fever and pyæmia, and published a book on the subject in the German language.—Dr. Edmund Drechsel, Professor of Physiological Chemistry in the University of Berne, who was formerly a lecturer in Leipzig, died suddenly from heart disease in Naples, whither he had gone to work in the Marine Zoological Station.—Professor Lopold Auerbach, of Breslau, whose death has been announced, was in his seventieth year. He was a pupil of Purkinje and carried on many researches of a physiological and anatomical character. His name is known to every medical student in connexion with the plexus mesentericus or Auerbach's plexus. He also published papers of great originality on the early determination of sex, on amœbæ, and on the physiology of muscle.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In the primary examination the following candidates have passed in the subjects indicated:—

PART I.

Biology.—H. M. Huggins, St. Bartholomew's Hospital.
Chemistry.—J. Freeman, Bristol; F. B. Hargreaves, Manchester; and K. Heanley, Royal Free Hospital.
Materia Medica and Pharmacy.—A. E. Gilford, R. Gillett, C. Hind, H. M. O. Jones, and D. E. Lockwood, Royal Free Hospital; L. R. Marshall, St. Mary's Hospital; L. S. Molony and F. M. Payne, Royal Free Hospital; and H. F. Stilwell and R. Storrs, St. Bartholomew's Hospital.

PART II.

Physiology.—N. C. Beaumont, St. Bartholomew's Hospital; T. Burdekin, University College Hospital; J. D. Graham, Belfast and Glasgow; K. E. Gregg, Royal Free Hospital; N. Hodgetts, Birmingham; B. Holroyd, Leeds; A. D. Nicolson, Glasgow; J. Notley, Birmingham; L. W. Roberts, Cambridge; H. M. Serjeant, Royal Free Hospital; L. S. Shoosmith, St. Mary's Hospital; and F. W. Whyte, Belfast.
Anatomy.—W. P. Allen, Birmingham; J. R. Bentley and M. B. Dawson, Middlesex Hospital; J. D. Graham, Belfast and Glasgow; A. T. Harvey, London Hospital; N. Hodgetts, Birmingham; B. Holroyd, Leeds; F. J. F. Jones, Guy's Hospital; H. G. Lewer, Edinburgh; A. D. Nicolson, Glasgow; J. Notley and S. Page, Birmingham; L. W. Roberts, Cambridge; H. M. Serjeant, Royal Free Hospital; and L. S. Shoosmith, St. Mary's Hospital.

UNIVERSITY OF GLASGOW.—The following have passed the First Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subject or subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

Thomas Anderson (B., C.), William Archibald (B., C.), William Armitage (B.), John Stoddart Barr (B., P.), Thomas Thompson Bathgate (Z.), George Thomson Begle (B., P.), William Macalister-Brown (B., C.), John Joseph Burke (B.), Hector Charles Cameron (B., P.), Robert David Campbell (B.), Daniel Lyall Carmichael (Z.), Edward Seymour Chapman (B., Z., P.), Walter Bartlett Chapman (B., P.), George Herbert Clark (B., P.), James Bertie Wylie Cook (B., P., C.), Samuel Campbell Cowan (B., P.), James Craig (B., Z.), Ernest Hamilton Cramb (Z., C.), Andrew Currie (B., C.), John Shedden Dale (Z., P.), David Beattie Davidson (B., P., C.), Gregor Hugh Grant Davis (B., Z.), James Dick, M.A. (B., C.), Hugh M'Millan Donaldson (P.), Andrew Robertson Dow (B., Z.), George Horn Downie (B., C.), Reginald Nairn Dunlop (B., C.), George Ferguson (Z., P.), Gilbert Garrey (Z., C.), David George Somerville Gartshore (P., C.), William Gemmill (B., Z., C.), William White George (Z.), John Ritchie Gilmour (B., Z.), William Girvan (C.), George Gordon (B., P.), John Miller Gordon (B.), Archibald Gow (B., C.), Andrew Parlane Granger (B., C.), John Guthrie (B., P.), George Pillans Harlan (B., P.), Saul Hyman Harris (P.), Francis

Joseph Henry (B., C.), Charles Milburn Hope (B., P.), Douglas William Hunter (B., Z., P., C.), Neil M'Coll Hutchison (Z.), William Johnstone Isbister (B.), George Rutherford Jeffrey (B., P.), Daniel Ross Kilpatrick (P., C.), Alexander King (B.), John Lambie (B., Z., P.), Robert Lauder (Z.), Alexander Linn (B., Z., P., C.), Frank Lochrane (B., P.), John Lockhart (B., C.), Alexander Logan (Z., C.), William Jamieson Logie (B., C.), Joseph Paterson Lusk (Z., P.), Edward Magoveny (B., C.), William Alexander Masson (B., Z., P., C.), Robert Menzies (B., P.), James Grant Millar (B., C.), Robert Joseph Mills (B., C.), William Alexander Milne (B., C.), John Morison (P., C.), Allan Howie Muir (B., C.), John Muir (B., Z.), Coll Macdonald (B.), Daniel Douglas M'Dougall (B.), William Ferguson M'Glashan (B., Z., P., C.), Thomas M'Laren (B., Z.), Alex. Maclean (P., C.), Hugh Archibald M'Lean (B.), Alexander M'Gaw M'Millan (P., C.), James M'Pherson (Z., P.), James Roy M'Vail (B., P.), John Dunn Nisbet (C.), John Paton (C.), Alexander M'Millan Pollock (P.), James Nimmo Prentice (P.), Thomas Hood Rankin (P.), Peter Mackenzie Reid (C.), Thomas Richmond (Z., P., C.), William Robertson, Kilmarnock (B., C.), Thomas Ritchie Rodger (B., Z.), William George Rodger (B., C.), Norman Cumming Rogers (B., Z.), Andrew Taylor Ross (B., C.), Charles James Ross (Z., C.), David Sandler (B., P.), Frank Donald Scott (Z.), James John Sinclair (B., Z.), Malcolm Bernard Gathorne Sinnette (B., C.), Donald Steel (B.), John Strathearn (B., C.), Robert Rennie Swan (C.), James Nathanael Todd (B., C.), Joseph Goodwin Tomkinson (B., C.), John Wright Turner (B., C.), John Unsworth (Z.), Robert Warden Valentine (B., C.), William Dinning Walker (B.), George Smith Wallace (B., C.), Thomas Irby Wallace (B., P.), Hugh Fleming Warwick (Z., P.), John Forrest Weston (Z., C.), David Ashley Wilson (Z., C.), David Watson Wilson (C.), John Wilson (B., C.), Thomas Watson Wilson (P., C.), William Webster Watt Wilson (P., C.), William Robertson Wylie (Z., P., C.), James Wyper (Z.), John Young, Bearsden (C.), John Young, Glasgow (B., C.), and Watson Young (B., P.). Women—Margaret Edith Bryson (B., Z.), Minna Edgar Miller (P., C.), Alice Moorhouse (B., Z.), Jessie Seath M'Ewen (B., Z.), Helen Mary Gordon (C.), Isabel Hill (Z.), Janet Thomson (B., Z.), Mary Janet Pirret (B. Z.), Mary Ann Thompson Ritchings (B.), Elizabeth Ness MacBean Ross (B., Z., P., C.), Martha Hunter Scott (B., Z.), Agnes Bankier Sloan (B., Z.), Elizabeth Macfarlane Sloan (B., Z.), Edith Christine Wallace (B., Z.), and Henrietta Fraser Young (B., Z., P.).

The following have passed the First Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

Robert Cumming, B.D., and William Henry Ferran.

The following have passed the Second Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subject or subjects indicated (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

James Freeborn Bennett (M.), William Broad (A., P., M.), Andrew Brownlie (M.), Thomas Bullough Calland (A., M.), Thomas Carruthers, M.A. (A., P.), James Robert Chalmers (M.), David Maclure Cowan (A., P.), John Craig (A., P., M.), George Morris Crawford (A., P.), William Crerar (P., M.), Charles Peter Garvie Crichton (A., M.), Charles Cheven Cumming (M.), James Austin Dickie (P.), Frank Lindsay Dickson (M.), David Curr Douglas (P., M.), James Drummond (M.), Hugh Campbell Ferguson (M.), George Gardner (A., P.), John Gardner (A., P.), George Garry (M.), William Gibson (M.), Hyam Goodman, M.A. (M.), Archibald Wilson Harrington (A., P., M.), Isaac Mackay Huey (M.), Thomas Inglis (A., M.), Nicol Jamieson (M.), Andrew Kerr (M.), Andrew Love (A., P., M.), Ramsay Millar (P., M.), Hugh Miller (M.), Norman M'Leod Miller (M.), Ebenezer Mitchell, M.A. (A., P.), Daniel Morrison (A., P.), Alexander MacCulloch (A., P., M.), James Hogg Macdonald (M.), Peter M'Fadyen (M.), John M'Gilchrist (M.), Anderson Gray M'Kendrick (A., P.), Charles Forbes Maclean (P., M.), George Todd Maclean, M.A. (A.), Norman Forbes MacLeod (M.), William Johnston Maclure (A., P.), John M'Millan (M.), Thomas Neill (A., P.), John Patton (M.), Thomas Stephens Picken (A., P.), John Reid, Lanark (A., P., M.), Robert Rennie (A.), William Alexander Riddell (M.), Arthur Robin (M.), James Scott, M.A. (M.); James Shearer (M.), Andrew James Smith (A.), David James Smith (M.), William Stewart Stalker (P., M.), Peter Alexander Steven (M.), Alfred George Stewart (M.), Frederic Richardson Stewart, M.A. (A., M.), James Douglas Brownlee Stewart (M.), Robert Taylor (A., P.), Charles Pinkerton Thomson (M.), William Brown Thomson (P., M.), Thomas Bird Tierney (A., P., M.), Joseph Swinburne Townley (A., P.), Arthur Vost (A., P., M.), Alexander Laurie Watson, M.A. (A. P. M.), Alexander Simpson Wells, M.A. (M.), Robert Orr Whyte, M.A. (A., P., M.), Alexander Wilson (A., P.), William Wright (P., M.), and John Doctor Young (M.). Women—Auguste Boyes (M.), Sarah Davidson (M.), Marjorie King Henderson Fleming (M.), Mabel Hardie (M.), Jessie Sophia Beatrix Hunter (A.), Ina Lochhead M'Neill (M.), Sara Maude Robertson (P., M.), Maud Spencer (M.), Gertrude Florence Fleetwood Taylor (P.), and Edythe Marjorie Stewart Walker (A., P.)

The following have passed the Second Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

Thomas Holmes, Richard Hewson Hunter, and John Joseph Lowell.

The following have passed the Third Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subject or subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

Robert Fisher Ballantyne (P., M.), James Barrowman (P., M.), William Bennett (M.), John George Wilson Boleyn (M.), John Brunton (P., M.), John James Buchan (P., M.), Ranald Douglas Campbell (P., M.), James Carruthers, M.A. (P., M.), Robert Carswell, M.A. (P., M.), John Ronald Currie, M.A. (P., M.), James Fulton Findlay (P., M.), Robert Fullarton, M.A. (M.), Alexander Garrow (M.), James Garden Green (M.), David Sloan Harvey (P., M.), Harold Smith Heap (M.), Ernest Frederick Lionel de Jersey (P., M.), Edward William Reese Jones (P., M.), Archibald Jubb (P., M.), Andrew Stewart Lang (P.), John Wilson Leitch M.A. (P.), Percival Ambler Mitchell (P., M.), Archibald Turner Macewan (P., M.), Dugald M'Kinlay (P., M.), Alfred Duncan Macnair (P., M.), William Gardner Neill (P., M.), Percival Leslie Pearce (M.), William Hart Steel, B.A. (P.), Francis Stevenson (P.), Frederick Ernest Stokes (P., M.), Thomas Morton Strang (P., M.), Andrew Taylor (P., M.), Henry Nisbet Turner (P., M.), Robert Andrew Hannan Watson (M.), and William Webster (P., M.). Women.—Mary Gardner (P., M.), Jane Lorimer (P.), Margaret Wallace Howie M'Neil (M.), Margaret Elizabeth M'Neill (P., M.), and Jean Effie Prowse (P.).

The following have passed the Third Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

A, including Pathology.—William Kilpatrick Hutton, M.A., and Charles Edward Cortis Stanford, B.Sc.

B, not including Pathology.—Lionel Mitchell Mackay, and William Shearer.

THE GREIG SMITH MEMORIAL.—The sum of £458 has been already received towards raising a permanent memorial to the late Mr. Greig Smith. The amount still needed is about £400, and as the fund will shortly be closed it is hoped that further subscriptions will be sent at an early date to the treasurer, Mr. F. B. Girdlestone, 4, Downside-road, Clifton.

THE Forfarshire Medical Association held the usual quarterly meeting in the University College, Dundee, on Sept. 30th, Dr. Alex. Campbell, President, being in the chair.—Mr. Greig showed two cases after Fracture of the Neck of the Humerus. (*a*) A boy, aged thirteen years, fractured his humerus six months ago. Mr. Greig wired the fragments owing to the difficulty in these cases of keeping the ends in apposition with splints. The result showed free movement at the shoulder-joint. (*b*) A boy, aged thirteen years, fractured his humerus seven years ago, when it was treated with splints. The movement was impaired, due chiefly to contraction of the latissimus dorsi and teres major muscles, which were divided this year. Mr. Greig also showed a patient after Pyæmic Arthritis, with free movement at joints which had been affected.—Dr. Mackie Whyte showed a specimen of Carcinomatous Tumour pressing on the Superior Vena Cava and the Right Bronchus.—Mr. Greig showed two specimens of Tuberculous Bursæ removed from under the quadriceps extensor tendon in both cases, pointing out that by early removal of tuberculous bursæ tuberculous arthritis might be prevented.—Dr. Dickson (Carnoustie) read notes of a case of Vesical Calculus, illustrating the action of piperazin on vesical calculi. The patient, aged seventy-two years, had passed small calculi at intervals and suffered severe pain. He refused operative treatment, but was treated with piperazin, with the result that he improved, passing numerous small calculi at frequent intervals. Dr. Dickson suggested that the piperazin caused disintegration of the calculi by acting on the uric acid.—Dr. Templeman read notes on the Disinfection of Rooms by Spraying. The first dealt with disinfection by sulphurous acid gas, its disadvantages and possible inefficacy, as he said it had been proved that 4½ per cent. was incapable in twenty-four hours of killing spores and even bacilli in from six to eight hours. He recommended disinfection by spraying with a germicide as more efficacious. It caused no damage and the material used was non-poisonous. The substance he advocated was formalin (40 per cent.) with the Equifex sprayer. Several specimens of wall-paper which had been sprayed that morning were exhibited, and the sprayer was explained and used before those present.—Dr. Dickson and Dr. Miller said they were not prepared to give up sulphur without further proof.—Dr. Mackie Whyte read notes of a case in which Chyle had Transuded into the Pleural, Pericardial, and Peritoneal Cavities. The patient, a girl aged twenty-one years, had been under treatment previously for tuberculous glands in the neck. Between 500 oz. and 600 oz. in all were drawn off from the various cavities, re-accumulation quickly taking place. There was no necropsy, but it was believed the condition was due to obstruction of the thoracic duct near its termination. An analysis by Dr. Lockhart Gillespie showed 4 per *mille* of fat. The literature of the subject was reviewed and the case commented on in this light.—Dr. Mackness showed a Placenta from a case of Triplets in which labour was induced at the sixth month.—On the motion of the President the various speakers were accorded a hearty vote of thanks for their interesting papers.

UNIVERSITY COLLEGE, LONDON.—The following Medical Entrance Scholarships have been awarded:—131 guineas, Mr. J. E. Stratton; 55 guineas, Mr. J. D. Bolton; and 55 guineas, Mr. H. A. Lyth.

WE have been requested by the Registrar of the Royal College of Physicians of Ireland to state that at the monthly business meeting of the College, held on Oct. 1st the following resolution was adopted: "That the censure of the College be passed on Dr. C. L. Lumley, in consequence of his unprofessional conduct disclosed in the case of Balmer *v.* Balmer, Phillips, Lumley, and Rohe."

SANITARY MATTERS AT WHITCHURCH, SOUTH WALES.—At a meeting of the Whitchurch Parish Council, held last week, the members were quite indignant that the erection of an infectious diseases hospital should have been suggested, and in order to signify their disapproval of the proposed scheme the clerk was instructed to write to the several ground landlords asking them not to let any land as a site for such a building.

KING'S COLLEGE.—The following Entrance Medical and Science Scholarships have been awarded:—Medical Entrance: W. E. Blackall, 60 guineas. Sambroke Medical (Science): J. A. Drake, £50; and M. R. C. MacWatters, £50. Warneford Medical (Arts): H. B. Day, £25 for three years; and A. A. Myers, £25 for two years. Worshipful Company of Clothworkers (Science): E. Hinks, £30 for two years; and A. E. Ruffhead, £20 for two years. Engineering Entrance: G. H. Lovegrove, £15.

THE GLASGOW SOUTHERN MEDICAL SOCIETY: SESSION 1897-98.—The annual business meeting was held on Oct. 7th, Mr. Stuart Nairne being in the chair, when the following were elected:—President: Dr. James W. Allan. Vice-President: Mr. R. H. Parry. Treasurer: Dr. Yeo W. Thomson. Secretary: Dr. Wm. Watson, Gartmore, Langside. Editorial Secretary: Dr. Henry L. G. Leask. Sealkeeper: Dr. Alex. Roxburgh. Court Medical: Mr. Stuart Nairne, Dr. Alex. Rankin, Dr. Eben. Duncan, Dr. R. W. Forrest, and Professor James Dunlop. Extra Members of Council: Dr. J. Fraser Orr, Dr. Hugh Kelly, and Dr. T. W. Jenkins. Representative to Board of Victoria Infirmary: Professor James Dunlop.

DISTRIBUTION OF PRIZES AT UNIVERSITY COLLEGE, LIVERPOOL.—Sir John Brunner, Bart., M.P. (in the absence of the Earl of Derby), distributed the prizes and certificates, on the 9th inst., to the successful students of the medical faculty of University College, Liverpool. The dean of the faculty (Dr. A. M. Paterson) read the annual report of the work of the session, a summary of which appeared in THE LANCET of Aug. 14th. The first award of the new Robert Gee Fellowship in Anatomy, a prize of the value of £100, was made to Mr. W. Graham, M.B., Ch.B. Vict. Mr. Edward Lawrence, who occupied the chair, commented on the prosperous condition of the medical school compared with that of other departments of the college, which were sorely in need of funds.

LITERARY INTELLIGENCE.—The works recently published by Mr. H. K. Lewis, of Gower-street, include the thirteenth edition of the Handbook of Therapeutics, by Dr. Sydney Ringer and Dr. Harrington Sainsbury; the fourth edition of Dr. Aldersmith's Ringworm and Alopecia Areata; the fifth edition of Dr. L. C. Parkes' Hygiene and Public Health; Manuals of Obstetric Practice and of Gynæcological Practice by Dr. D. A. Dührssen of Berlin (translated by Mr. J. W. Taylor and Dr. F. Edge); Dr. William Gray on Influenza; and the Sanitary Inspectors' Handbook, by Mr. Albert Taylor. Mr. Lewis also announces for early publication a Handbook of Diseases of the Nervous System, by Dr. C. E. Beevor; the fifth edition of a Practical Text-book of the Diseases of Women, by Dr. A. H. N. Lewers; and Mastoid Abscesses and their Treatment, by Dr. A. Broca and Dr. F. Lubet-Barbon (translated by Dr. H. J. Curtis).—A new weekly medical journal has just appeared in Breslau entitled *Wochenschrift für Therapie und Hygiene des Auges*, which is to deal entirely with the treatment and hygiene of the eye. This would seem to most of us to be a somewhat limited field for a weekly journal, but the learned editor, Dr. Wolffberg, of Breslau, and the eminent staff who are to coöperate with him—amongst whom we notice the names of Professor Cohn, of Breslau, and Dr. E. Jacobson, of Berlin—have doubtless taken good care to inform themselves of the probabilities of success before embarking on such a serious undertaking as that of a weekly publication.

THE Corporate and Medical Reform Committee have received from Sir William Thomson and Mr. George Brown, Direct Representatives of the profession for Ireland and England respectively on the General Medical Council, favourable replies concerning a programme of reform suggested by the committee.

THE Water Committee of the Council for the Borough of Hastings (which includes St. Leonards-on-Sea) state that samples of the water supplied to the borough have just been submitted to the analysis of Dr. Dupré, who reports that the waters "are in every respect admirably adapted for a town supply, both as drinking water and for general domestic use."

DIPHTHERIA IN LONDON.—The deaths from diphtheria in London, which had been growing in numbers week by week during September, having been 25, 35, and 45 in the three weeks ended on the 25th, showed still further increase in the seven days to Oct. 2nd, during which they totalled 49, although even then they were 3 below the corrected decennial average for the thirty-ninth week of the period 1887-96. The Camberwell sanitary area had 6 deaths, Hackney and Lambeth each 5, Battersea 4, and Kensington and Bethnal Green areas each 3 deaths credited to them in the week. Only one of the 49 deaths was in an infant, other 26 were of children under five years of age, and 2 of persons aged upwards of twenty years. The admissions to hospital in the week were 165, and 1039 cases remained under treatment in hospital at the close of the week. In the Outer Ring there were 14 deaths registered from diphtheria, including 5 of persons belonging to West Ham and 3 to Edmonton registration districts. Last week there were as many as 53 deaths from diphtheria registered in London, 49 being the corrected decennial average for the particular week. Hackney had 6 deaths, Poplar and Lambeth each 5, Kensington 4, and Bethnal Green and Wandsworth sanitary areas had each 3 deaths credited to them. Not one death occurred of an infant or a person aged over twenty years, and 37 were of children aged one to five years. The admissions to London hospitals numbered 157, and 1050 patients were under treatment in these institutions on Saturday last. In the Outer Ring 13 deaths were registered from the disease, 7 being in West Ham and 4 in Hendon registration districts. Thus, we seem to be face to face with an increasing autumnal mortality from this malady in and around London.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BENNETT, F. DILLON, M.R.C.S., L.R.C.P., L.S.A. Lond., has been appointed Junior Medical Officer to the Army and Navy Coöperative Societies, vice Stanley De Butts, resigned.

BRADBURY, J. B., M.D., F.R.C.P. Lond., has been appointed Assessor to the Regius Professor of Physic at Cambridge University.

CAMERON, A. G. R., M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lond., D.P.H. Camb., has been appointed by the Government of India to act temporarily as Medical Officer in the Sanitary Department.

CARMICHAEL, E. W. S., M.B., C.M. Edin., has been appointed a Resident Surgeon to the Edinburgh Royal Infirmary.

DE BUTTS, STANLEY B., M.D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to Messrs. Cook and Son's (Egypt) Nile Steamship Service.

EWENS, H. L., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the St. Peter's Sanitary District of the Maldon Union.

FOWLER, H., M.B., C.M. Edin., has been appointed a Resident Physician to the Edinburgh Royal Infirmary.

GEMMELL, J. E., M.B., C.M. Edin., has been appointed an Assistant Medical Officer to the Hospital for Women, Shaw-street, Liverpool.

GIBBONS, W. E., M.B., C.M. Edin., has been appointed a Resident Surgeon to the Edinburgh Royal Infirmary.

HANCOCK, G. C., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer to the Port of London Sanitary Authority.

HARPER, THOMAS, M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer of Health for the Burgh of Stranraer.

HARVEY, W. T., M.B., C.M. Edin., has been appointed a Resident Physician to the Edinburgh Royal Infirmary.

HIGGINS, H., M.A., M.B. Camb., M.R.C.S., L.R.C.P. Lond., has been re-appointed Demonstrator of Anatomy for five years at Cambridge University.

IRVINE, R., M.B., C.M. Edin., has been appointed a Resident Surgeon to the Edinburgh Royal Infirmary.

JACOMB-HOOD, C. J., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Surgeon to the Brighton and Hove Hospital for Women, and Lying-in Institution.

KIRKPATRICK, STEWART, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for Connah's Quay, Flintshire.

LONG, T. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 8 Sanitary District of the Aylesbury Union.

MATTHEW, E., M.B., C.M. Edin., has been appointed a Resident Physician to the Edinburgh Royal Infirmary.

MCALLISTER-HEWLINGS, W. F., M.B., C.M. Edin., has been appointed Medical Officer for the Third Sanitary District of the Leicester Union.

MOORE, A. J., M.R.C.S., has been re-appointed Medical Officer for the District of St. Lawrence of the Reading Union.

MORRIS, C. E., L.R.C.P., L.R.C.S. Edin., has been appointed House Surgeon to the Royal Southern Hospital, Liverpool.

MURRAY, J. H., M.B. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Medical Officer to the North-Eastern Fever Hospital (Metropolitan Asylums Board).

PATCH, WINIFRED S., M.B., has been appointed Junior House Surgeon to the Infirmary, Huddersfield.

PEATHING, A. V., L.S.A. Lond., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

PRIOR, SAMUEL, M.B., C.M. Glasg., has been appointed Non-resident House Surgeon to the Western Infirmary, Glasgow.

RIDDELL, R. G., M.B., C.M. Edin., has been appointed a Resident Surgeon to the Edinburgh Royal Infirmary.

ROBERTSON, JEAN F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Resident Physician to the Royal Sick Children's Hospital, Edinburgh.

ROSS, T. A., M.B., C.M. Edin., has been appointed a Resident Physician to the Edinburgh Royal Infirmary.

SCOTT, J. G. C., M.B., C.M. Edin., has been appointed Medical Officer for the Brafield Sanitary District of the Hardingstone Union.

SHACKEL, G. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Ludlow Rural District Council.

SNELL, E. H., M.D., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the City of Coventry.

SPICER, FREDERICK, M.D. Durh., has been appointed Surgeon to the Metropolitan Ear, Nose, and Throat Hospital.

STRUTHERS, J. W., M.B., C.M. Edin., has been appointed a Resident Physician to the Edinburgh Royal Infirmary.

TAYLOR, F. H. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Kidlington Sanitary District of the Woodstock Union.

WATT, A. H., M.B., C.M. Edin., has been appointed a Resident Physician to the Edinburgh Royal Infirmary.

WHITTELL, A. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Fylingdales District of the Whitby Union, vice J. Greenhalgh, resigned.

WINDLE, J. D., L.R.C.P. Irel., L.R.C.S. Edin., M.R.C.S. Eng., has been re-appointed Medical Officer of Health by the Southall, Norwood, District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Assistant Surgeon.

BRADFORD EYE AND EAR HOSPITAL.—Surgeon.

BRIGHTON THROAT AND EAR HOSPITAL, 23, Queen's-road, Brighton.—Non-resident House Surgeon. Salary at the rate of £52 per annum.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

CHESTER GENERAL INFIRMARY.—Visiting Surgeon for six months. Salary at the rate of £90 per annum, with residence and maintenance in the house.

CONSUMPTION HOSPITAL AND ORPHAN HOMES OF SCOTLAND, Bridge of Weir.—Resident Medical Officer. Salary £80 per annum, with furnished apartments, board, &c. Applications to the Hon. Secretary, 194, St. Vincent-street, Glasgow.

CORPORATION OF CALCUTTA, Bengal, India.—Health Officer for the town of Calcutta for five years. Salary not less than 1200 rupees and not more than 1500 rupees a month. The appointment is subject to specified conditions. Applications to the Secretary to the Corporation, Calcutta.

COUNTY ASYLUM, Shrewsbury.—Junior Assistant Medical Officer for four years. Salary to commence at £100 per annum (and £3 in lieu of beer, &c.), with board, lodging, and washing, rising to £120 at the end of two years' service.

COUNTY OF LANARK.—Resident Physician for Lightburn Joint Hospital for Infectious Diseases, Shettlestone, near Glasgow. Salary £120 per annum, with board, &c. Applications to the Clerk of the Joint Committee, 194, Ingram-street, Glasgow.

DEPTFORD MEDICAL MISSION.—Medical Officer and Superintendent. Applications to the Rev. F. A. Pring, M.R.C.S., St. Luke's Clergy House, Deptford, S.E.

DEVON AND EXETER HOSPITAL, Devon.—House Surgeon. Salary £120 per annum, increasing £10 a year up to £150, with board and lodging.

DURHAM COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary £150. Applications to Dr. Smith, Durham County Asylum, Winterton, Ferryhill.

GATESHEAD UNION.—Resident Assistant Medical Officer at the workhouse, unmarried. Salary £100 per annum, with furnished apartments, rations, and washing, valued at £50 per annum, subject to statutory deductions. Applications to the Clerk to the Guardians, Poor Law Union Offices, Prince Consort-road, Gateshead.

GENERAL HOSPITAL, Birmingham.—Surgical Casualty Officer for one year. Salary £50 per annum (non-resident).

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST, 26, Margaret-street, Cavendish-square, London.—Physician-in-Ordinary.

LINNEAN SOCIETY OF NEW SOUTH WALES, Sydney.—Macleay Bacteriologist. Applications to Dulau and Co., 37, Soho-square, London.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, Soho-square, London.—Resident Medical Officer for six months. Board, residence, laundry, and an honorarium of 10 guineas.

NEW HOSPITAL FOR WOMEN, 144, Euston-road, London.—Medical Women as Clinical Assistants in the Out-patient Department, for one year.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-upon-Trent.—Assistant House Surgeon for six months. Board, apartments, and washing provided.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer and Assistant Resident Medical Officer for six months each. Salary at the rate of £50 per annum for the senior post.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan.—Junior House Surgeon for twelve months. Salary £80 a year, with apartments and rations, exclusive of wines, spirits and washing.

ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY HOSPITAL, Ryde.—House Surgeon, and to act as Secretary. Salary £60 per annum, with board, lodging, and washing.

ROYAL PORTSMOUTH HOSPITAL.—Assistant House Surgeon for six months. Board and residence, and an honorarium of £15 15s.

ROYAL SEA-BATHING INFIRMARY, MARGATE.—Assistant Resident Surgeon. Salary £52 per annum, with board and residence. Applications to the Secretary, R. S. B. Infirmary, 30, Charing-cross, London, S.W.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King-street, Regent-street, London.—Surgeon.

STOKE-UPON-TRENT UNION.—Resident Medical Officer for the Workhouse. Salary £100 per annum, with board, washing, and furnished apartments in the hospital. Subject to statutory deductions. Applications to the Clerk to the Guardians, Union Offices, Stoke-on-Trent.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House Surgeon. Salary £100, with board, lodging, and washing.

THE WINDSOR ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and attendance.

UNIVERSITY OF SYDNEY, New South Wales, Australia.—Demonstrator of Physiology. Salary £350. Passage money allowed, £60. Applications to the Acting Agent-General for New South Wales, Westminster Chambers, 9, Victoria street Westminster.

WEST LONDON HOSPITAL, Hammersmith-road.—Assistant Physician.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On Oct. 9th, at Hoghton-street, Southport, the wife of G. Reinhardt Anderson, F.R.C.S., of a daughter.

BROOKE.—On Oct. 10th, at Buxton House, West Bridgford, Notts, the wife of Frederick Brooke, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

FORBES.—On Oct. 9th, at Drumminor, Calverley-park, Tunbridge Wells, the wife of Norman Hay Forbes, of Forbes, F.R.C.S. Edin., L.R.C.P. Lond., of a daughter.

LAMBE.—On Oct. 11th, at West Bridgford, Notts, the wife of Thomas Lambe, M.R.C.S., L.R.C.P., of a daughter.

WOOD.—On Oct. 5th, at Darnaway-street, Edinburgh, the wife of Russell B. Wood, M.B., F.R.C.S. Edin., of a daughter.

MARRIAGES.

BEAN—RIGG.—On Oct. 12th, by licence, at St. Edmund's Church, Salisbury, by the Rev. Arthur Jeffreys Douglas, Louis C. Bean, M.R.C.S. Eng., L.R.C.P. Lond., youngest son of Alfred C. Bean, of Hanwell, to Lucy E. Le Blond Rigg, of Tavistock, youngest daughter of the late Rev. William Rigg, M.A., D.D., formerly of Kingston-on-Thames.

BLUMER—KITCHING.—Oct. 7th, at St. Maurice's Church, York, by the Rev. T. L. Brashaw, M.A., vicar of Wortley, brother-in-law of the bride, assisted by the Rev. H. Robinson, M.A., rector of the parish, Frederick Milnes Blumer, B.A., M.B., of Stafford, third son of Luke Blumer, M.D., of Sunderland, to Isabel, eldest daughter of the late Rev. Robert Kitching, M.A., vicar of Westow, Yorks, and of Mrs. Kitching, West View, Bootham-crescent, Yorks.

BROOKE—SWABEY.—Oct 6th, at St. Thomas à Beckett, Bath, by Rev. Stephen Swabey, B.A., assisted by Rev. Maurice Swabey, M.A., Gilbert Edward Brooke, B.A. Cantab., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., L.S.A. Lond., of Bayfield House, Bath, to Alice Marie, fourth daughter of Rev. H. B. Swabey, M.A., Chaplain to R. U. Hospital, Bath.

SIMMONS—HIGGINBOTHAM.—At Christ Church, Sutton, on Saturday, Oct. 9th, by the Rev. J. E. Courtenay Gale, Gerald Allpress Simmons, M.D., B.S. Lond., to Ann, third daughter of the late John Edwards Higginbotham, of Glasgow, and Mrs. Higginbotham, of Meadowcroft, Sutton, Surrey.

DEATHS.

DRING.—On Oct. 5th, at West View, Seaford, Herbert Johnson Dring, M.B., M.Ch., in his 39th year.

LUPTON.—On Oct. 8th, at Waterhead, Oldham, James Lupton, L.S.A., of Brookhurst, Stockport-road, Ashton-under-Lyne. Interred at Dukinfield Cemetery on Tuesday, Oct. 12th. Friends please accept this intimation.

MCWATT.—On Oct 11th, at Haymount, Duns, N.B., Robert Charles Mc Watt, M.D., L.R.C.S., aged 69 years.

WICKHAM.—On Oct. 7th, at Gordon House, Tetbury, John Comely Wickham, L.R.C.P., M.R.C.S., and L.S.A., aged 94 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), ing's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (19th).—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. J. F. Payne (President): Introductory Address.—Dr. G. F. Still: The Bacteriology of the Simple Posterior Basic Meningitis of Infants. Specimen:—Mr. C. Spurrell: A Case of Multiple Spontaneous Fracture. Card Specimen: Dr. J. Calvert and Mr. Strangeways Pigg: A Case of Melanotic Sarcoma. Mr. D'Arcy Power: Empyema of the Antrum in a Child aged eight weeks.

WEDNESDAY (20th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr. T. Comber: The Limits of Species in the Diatomaceæ.

MEDICAL SOCIETY OF UNIVERSITY COLLEGE (London).—8 P.M. Annual Public Night. Dr. W. B. Ransom: Vis Medicatrix Naturæ. Exhibition of Microscopes, Drugs, Instruments, Roentgen Rays, Chromoscope, &c.

THURSDAY (21st).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-sq., W.).—8 P.M. Card Specimens:—Mr. A. Frost: Odell and Porter's Centring Instrument for Ophthalmic Lenses.—Mr. A. Lawson: Leuco-sarcoma of Choroid.—Dr. Rayner Batten: (1) Foreign Body on Optic Papilla; (2) Pulsating Tumour of Orbit. 8.30 P.M. Mr. H. R. Swanzy (President): On some Congenital Anomalies of the Eye, as illustrated in the Society's Transactions. (Introductory Address.) Papers:—Mr. E. Clarke: Some Experiments on the Union of Corneal Wounds.—Mr. T. Bickerton: Spontaneous Dislocation of the Lens into the Anterior Chamber: Replacement by Operation.

HARVEIAN SOCIETY.—Ordinary Meeting. Dr. Clifford Beale: Recent Experience of the Use of Creasote in Phthisis; Clinical Cases.

FRIDAY (22nd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. The following cases will be shown:—Dr. St. Clair Thomson: (1) Very Distensible Nævus of the Frontal Region, with Defect in the subjacent Bone in a Man aged fifty years; (2) A Young Woman with Primary Tuberculosis of the Interior of the Nose and Secondary Infection of the Pharynx, with microscopic specimen.—Dr. B Abraham: Hemiplegia in a Child aged two years.—Dr. J. K. Fowler: A Case of Functional Tremor. Patients in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (19th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Ferrier.

HOSPITAL FOR NERVOUS DISEASES (73, Welbeck-street).—Dr. T. D. Savill: On the Clinical Investigation of Disorders of the Nervous System.

WEDNESDAY (20th).—HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Angina Pectoris.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—Mr. S. Paget: Surgical Cases.

NORTH-WEST LONDON CLINICAL SOCIETY (North-West London Hospital).—8.30 P.M. Sir William Broadbent: Annual Address.

THURSDAY (21st).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Voelcker: Demonstration of Selected Cases.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 14th, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Oct. 8	30·29	W.	0·05	77	57	40	45	47	Cloudy
,, 9	30·15	N.W.	...	86	58	46	49	51	Cloudy
,, 10	30·29	W.	0·03	70	56	50	48	52	Overcast
,, 11	29·99	N.W.	...	97	60	51	52	56	Cloudy
,, 12	29·96	N.W.	...	88	56	41	41	43	Hazy
,, 13	29·85	W.	0·02	79	54	42	42	45	Overcast
,, 14	29·72	S.	...	83	61	43	51	53	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

"A PREDISPOSITION TO HERNIA?"

To the Editors of THE LANCET.

SIRS,—Will you allow me to reply to the letter in THE LANCET of Oct. 9th, signed "The Father, M.D."? I have conducted a large general practice for thirteen years in the Australian bush, where hard riding is the rule. Children, one might almost think, were born on horseback. Bare-backed or in the saddle the Australian child is at home on the horse at a much younger age than his. I have had every opportunity of observation, and during those thirteen years not one single case of inguinal hernia in children has come under my notice. Further, I am the medical referee for ten Australian Life Offices, and have not had a case of hernia to report upon for any one of them. I do not wish to say that hernia does not exist in Australia, but merely confine my remarks to his question—viz., horse-back exercise. The public are always fond of talking upon subjects they know nothing about. I think your correspondent need not trouble about his little child. But if still in doubt, and before making a change, it would do no harm to allow the boy to wear a properly-fitted truss as a means of precaution, though I consider it unnecessary. Enclosing my card, which is at your correspondent's service.

I am, Sirs, yours faithfully,

Oct. 12th, 1897. COO-EE.

NURSE.—We do not prescribe or recommend treatment or individual practitioners. Surely our correspondent must know a medical man whom she can consult.

THE UNQUALIFIED ASSISTANT.

To the Editors of THE LANCET.

SIRS,—Will you kindly give publicity to the following? On July 27th last my wife gave birth prematurely to a son, since which time he has been attended at different times by the assistant of a local medical practitioner, which assistant I believed to be a fully-qualified medical man. On Sept. 29th the child died while still under his care, he having been summoned to him only the day before his death. I reported the death at the surgery, and was informed for the first time that the said assistant was unqualified, and that therefore a certificate could not be granted until the coroner had been communicated with. I was also informed that I had no right to assume that he was a fully-qualified practitioner. The police visited my house to make full inquiries respecting the child's death. This has caused me much pain, annoyance, and trouble, after having done all in my power to save the child's life. Holding a public position, I shall be glad if you will kindly advise me through the medium of your journal as to what course I should take in order to remove from the minds of my neighbours and the public any misgivings which may arise respecting the child's death. Trusting something may be done in order to prevent the practice of unqualified men attending cases of illness and putting the public to the same inconvenience that I have been subjected to,

I am, Sirs, yours faithfully,

WM. IVE TUCKER.

Farnham-terrace, St. Mary's-road, Ilford, E., Oct. 7th, 1897.

*** We agree with our correspondent that the public ought to be informed when the assistant is not qualified.—ED. L.

Veraz is recommended not to have anything to do with the matter.

AN UNFORTUNATE CIRCULAR.

WE have received the wrapper which is sent out, we are informed, upon a preparation known as Fearnley's Sedative Pomade. The wrapper bears a testimonial from a medical man speaking highly of the efficacy of the preparation. "I have used it myself," says the medical man, "and have prescribed it for my patients with equal benefit," and his full name and address, qualifications, and past and present honorary positions are appended. We strongly advise this medical man to approach the enterprising hairdresser and perfumer with a view to the suppression of the unprofessional circular.

Sigma would be glad to hear of a home where an epileptic boy aged thirteen years could be received for half a guinea a week. Address letter to THE LANCET Offices.

Interested has omitted to give us his name and address.

"THE GENERAL PRACTITIONER AND THE 'NURSES' COÖPERATION.'"

To the Editors of THE LANCET.

SIRS,—We beg to call your attention to the misleading character of the above headline in your issue of last week. The Nurses' Coöperation, 8, New Cavendish-street, was founded in 1891, and incorporated in 1894, and has over 400 nurses on its staff, but it has no branches or other offices. It is therefore an obvious injustice to the fully-trained experienced nurses of the Nurses' Coöperation to have the title which belongs exclusively to them used as a heading to a paragraph about a private institution. We have no "midwifery branch," although we supply certificated nurses for maternity cases. Our scale of fees and other particulars are shown in the annual report enclosed herewith. We shall be greatly obliged by your inserting this letter in your next issue, as the comments made in THE LANCET of last week might give your readers an erroneous opinion of the aims of this society. We have from the first worked with and under the doctors, not in opposition to them; and in return we have received from them most generous support and appreciation.

I am, Sirs, yours faithfully,

H. F. GETHEN, Secretary to the Nurses' Coöperation.

The Nurses' Coöperation, 8, New Cavendish-street, W., Oct. 12th, 1897.

To the Editors of THE LANCET.

SIRS,—In answer to "General Practitioner's" remarks, will you assure him that although we are fully qualified midwives (I personally hold three certificates), and most grateful to the London Obstetrical Society for having raised the standard of a midwife's work and education, we have no intention or desire to infringe or impose on our superior officers' rights; instead of so doing we are prepared to call in any specialist in midwifery who would attend or general practitioner who lives in the neighbourhood of any patient we may attend should the slightest complication arise. The time has not arrived, however, I fear, when a woman could be allowed to do what is essentially a woman's work without calling upon herself undeserved rebuke. It is impossible for the busy family practitioner, kind-hearted and long-suffering as he often undoubtedly is, to do the work we do, for in many cases fever, or perhaps something worse, would have followed had we not previously well cleansed the patient; and, again, in nearly all cases (we only attend respectable married women) the mother has not only to be attended to, but her gruel, &c., prepared, and the baby is also generally washed for several days. Personally—and I believe every woman with proper feeling will express the same sentiment—I should be very sorry to undertake any responsibility my capabilities will not allow me to do safely. Instead of injuring any professional gentleman we have been the means often, not only of saving years of suffering, but of upholding the doctor, for it is no unusual thing to be accosted with, Can you tell me what to do for such and such a thing or such a person? And the reply has always been to the effect, Go at once to a good doctor and get reliable advice, pay a reasonable fee if you can, and be sure you follow his directions. As to any professional gentleman connected with this institution dodging to obtain another practitioner's patients I must be allowed to say that in all our work, both public and private, we have only met one professional gentleman who has in any way forgotten that he is a gentleman (this does not apply to your correspondent), and we have met with so much real kindness from both specialists and general practitioners that rather than cause any feeling of jealousy or idea of unjust dealing I am prepared to give up the work we so much like—that is, midwifery amongst the respectable poor, who so greatly need our assistance in their hour of trial. At the same time, permit me to assure "General Practitioner" that there is no medical officer here who would act as he describes, for no matter what the world may think we only wish to fulfil our contract with the public.—viz., send out reliable, trustworthy nurses, and do good where it may be done without either professing to be what we are not or injuring in any way those who, in any hour of need, are self-forgetful and always hard-worked and badly paid. If your correspondent will call upon me I shall be pleased to assure him of our coöperation with, not against him.

I am, Sirs, yours faithfully,

Oct. 10th, 1897. MATRON.

To the Editors of THE LANCET.

SIRS,—I omitted to send you one of our midwifery cards yesterday, and upon again referring to the advertisement in THE LANCET I see the Marylebone people have left out "*diploma*," also I see your correspondent, in speaking of our work, says, "*inadequate*" services. This I deny. Our services have hitherto been not only adequate, but most successful, for we have never had a torn perineum or dead baby or fever; and our patients not only get up well, but remain well. Kindly make what use you please of this communication, which can easily be verified.

I have the honour to be, Sirs, yours truly and obliged,

M. CANNING, Matron, L.O.S.,

(A midwife and nurse of twenty years' experience).

New Bond-street, W., Oct. 11th, 1897.

A newsagent has sent us the following for insertion: "In answer to an address of loyalty and congratulation addressed to the 'Queen' by the matron and nurses of Ings House Nurses' Coöperation, 81, New Bond-street, W., the following reply was received:—

"Whitehall, 4th October, 1897.

"MADAM,—I have had the honour to lay before the Queen the loyal and dutiful address of the matron and nurses of the Ings House Nurses' Coöperation on the occasion of Her Majesty attaining the sixtieth year of her reign, and I have to inform you that Her Majesty was pleased to receive the same very graciously.

"I have the honour to be, your obedient servant,

(Signed) "M. W. RIDLEY."

*** We have received the above four communications concerning a paragraph which appeared in THE LANCET last week. Disregarding the fourth—for we have not impeached the loyalty of Ings House—we must point out that the questions that have been asked remain for the most part unanswered. We have not suggested that nurses have no place by the lying-in bed, but only that the advertisement which we quoted attempts to exclude medical men therefrom. We note without enthusiasm that the services of Ings House are only at the beck and call of respectable married women. The title of our paragraph was suggested by the advertisement under consideration. We have before us printed matter showing that the Ings House institution styles itself "Nurses' Coöperation," but it seems from Miss Gethen's letter that they have not the earliest claim to the title.—ED. L.

M.B.—Is not our correspondent a little quick to smell evil? A's conduct looks to us like that of an off-hand and busy but perfectly honourable man.

J. S. G. (Bristol) should consult his medical attendant.

A DANGER OF THE ANASTOMOSIS BUTTON.

IN the *Edinburgh Medical Journal* for September, 1897, Mr. H. J. Waring records the following case. A patient suffered from a malignant growth which involved both the small intestine and the transverse colon. Both were resected and the divided ends united by anastomosis buttons. On the third day there were symptoms of intestinal obstruction and the patient died. At the necropsy each button was found completely blocked with orange pips, three being fixed in the larger and two in the smaller. To prevent such an accident the writer advocates the use of a button of larger lumen made of decalcified bone, and so capable of being dissolved by the intestinal juices. He prefers the shape recommended by Mr. Bailey.

AN INTERESTING CASE.

To the Editors of THE LANCET.

SIRS,—Kindly allow me to publish the following case for the benefit of young practitioners who are in doubt as to the respective merits of version and forceps in deformed pelvis. A woman, aged twenty-five years, was delivered four years ago of a living child by forceps—a difficult operation. About two years ago she was again delivered by forceps of a dead child. The operation was more difficult and more painful to the woman. On Aug. 28th I saw her at 3 A.M., and found the funis prolapsed on the thighs and the os fully dilated. Having during the preceding few months performed version three times for arm presentations, and the patients mending well, I thought that it might suit her better than forceps. I introduced my hand into the uterus, but the patient screamed, held herself rigid, &c., so that in less than two minutes I withdrew my hand and suggested $CHCl_3$. An elderly friend of mine who has a great partiality for version came to see the patient, so I gave two and a half drachms of chloroform, and he turned; from beginning to finish he was nearly three-quarters of an hour, and he said that the head was impacted, and he had to use very great force and jaw-traction to deliver. Little hæmorrhage followed. The pulse was about 100, rather small at the finish. The patient came round and talked to us before we left her at 5 o'clock. She had immediately after recovery from the chloroform excruciating pain, and after 7 o'clock began to roll about the bed in agony. When I got there a little before 8 o'clock she was dead. Looking back at the case I wish that, seeing that the funis was pulseless, I had perforated the head and extracted by forceps as I consider the patient died from the shock and injury of the version. In the first two parturitions I did not give chloroform. The projection of both the pubes and the sacrum into the pelvic cavity was very well marked. The patient was rickety with small, much-bowed legs, and a large well-developed body.—I am, Sirs, yours faithfully, J. C.

*** The case would appear to have been one of ruptured uterus.—ED. L.

C. G. G.—The Act says that the guardians *may* with the consent of the Local Government Board pay to medical officers reasonable compensation for extraordinary services, and in the scale of prices simple fractures of the thigh or leg are put down at £3. As the word used is "may" we suppose the guardians may be within their legal right in refusing payment, but even then we presume they would have to give reasons. We advise our correspondent to write to the Local Government Board, giving a clear statement of his case, and we feel sure that that department will see justice done.

"ADVERTISING EXTRAORDINARY."

IN reference to some remarks made by us recently concerning the application for the post of surgeon to the G.W.R. Provident Society by a Dr. William Polson a correspondent has sent us the circular advertisement of a "Dr." A. Hands, another and also unsuccessful competitor for this appointment. Mr. Hands holds the qualifications L.R.C.P., M.R.C.S., but in the circular to the voters he gives himself a medical degree and includes a reproduction of his photograph. If the wording of Mr. Hands's advertisement is not as offensive as that of Dr. Polson—and it is not—the circular still remains a very regrettable production, and neither gentleman can be held in the least degree excusable because of the methods of the other.

M.B., C.M.—"Gas referees" have been appointed under the following Acts: The City of London Gas Act, 1868; The Gaslight and Coke Companies Act, 1876; The South Metropolitan Gaslight and Coke Companies Acts, 1869 and 1876; The Commercial Gas Act, 1875, and The Gaslight and Coke and other Gas Companies Acts' Amendment Act, 1880. The clause under the heading of "Sulphur Compounds other than Sulphuretted Hydrogen" reads thus: "The maximum amount of sulphur with which gas shall be allowed to be charged shall be 17 grains of sulphur in every 100 cubic feet of gas." This order emanates from the following address—17, Buckingham-street, Adelphi, W.C., and is dated March, 1889. Further information could doubtless be obtained at the gas-testing offices of the London County Council, Spring-gardens.

THE LIABILITIES OF A BONE-SETTER.

To the Editors of THE LANCET.

SIRS,—I should be glad to know whether a bone-setter is liable to damages for mal-practice in the same way as a medical man is, or whether any distinction is made by the courts of law?

I am, Sirs, yours faithfully,

Oct. 10th, 1897. INQUIRER.

*** The bone-setter is certainly liable for damages, but usually escapes such prosecutions. The patient having lost his money, and not having regained his health, does not care to expose his folly publicly. Where a patient, on the other hand, thinks he has a chance of proving mal-practice against a registered medical man, so far from being deterred by the fear of the ridicule of his neighbours he is spurred on to legal action by the certainty of their sympathy.—ED. L.

THE DOLOMITE ALPS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers give me any information concerning the value of a sojourn in the district of the Dolomite Alps, Austrian Tyrol, for malarial fever?

I am, Sirs, faithfully yours,

Oct. 10th, 1897. B. D.

Mr. F. H. Madden.—The Spas and Mineral Waters of Europe, by Hermann Weber and F. Parkes Weber (London: Smith, Elder, and Co.); Bradshaw's Dictionary of Mineral Waters (London: Kegan Paul, Trench, Trübner, & Co); Annuaire des Eaux Minérales (Paris: Publishing office of *La Gazette des Eaux*); Allgemeine und Specielle Balneotherapie, by Karl Grube (Berlin: Hirschwald); Balneotherapeutisches Lexicon, by E. H. Kisch (Vienna and Leipzig: Weber und Schwarzenberg).

NEGLECT OF VACCINATION IN ISLINGTON.

IF Islington is again overtaken by one of those great epidemics of small-pox which have affected it more than once in the last twenty-seven years it will not be the fault of its indefatigable medical officer of health, Mr. Alfred E. Harris. Mr. Harris has just published some statistics which may well alarm the public of this great parish. These figures show that there has been a steady increase in the neglect of vaccination during the last twelve years, so that, whereas in 1885 of 9683 children born only 8·0 per cent. were finally unaccounted for, in 1896 of 9752 children born no less than 22·4 per cent. are unaccounted for. Such wholesale violation of law is doubtless the fault of the guardians more than of the inhabitants. It is nothing short of a scandal that a board of guardians should override the wisdom of the Legislature. The vestry of Islington has very properly protested against the guardians being in this matter the sanitary authority. One thing, however, is clear, that if at the approaching election of guardians this question is not put into the very front of those on which the election will turn the inhabitants will then become responsible for the unprotected state of the children and for general treason to the teachings of science and of common observation.

Nemo.—1. Storage and exposure to air will remove iron as will also sand filtration. 2. It is the duty of the sanitary authority to see that every place under their supervision has a fairly pure and wholesome supply of water. On the representation of any person to any local authority that within their district the water in any well, tank, cistern, or pump is so polluted as to be injurious to health such authority may apply to a court of summary jurisdiction for an order to remedy the same and may make an order directing the well, tank, cistern, or pump to be permanently or temporarily closed, or such other order as may appear to them to be requisite to prevent injury to the health of persons drinking the water; and the court may, if they see fit, cause the water complained of to be analysed at the cost of the local authority applying under the section. 3. Since the above are provisions in the Public Health Act, clearly the medical officer of health in considering the quality of the water-supply is only carrying out a public duty to report from time to time his opinion as to its fitness or unfitness for drinking purposes. This being so he is surely beyond the pale of private legal action.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Newcastle Chronicle, Luton Reporter, Isle of White Observer, Batley Reporter, Express and Star, Manchester Courier, Temperance Record, Wilts Standard, South Wales Daily News, Birmingham Post, Western Morning News, East Anglian Daily Times, Dunstable Advertiser, Times of India, Pioneer Mail, Norfolk Chronicle, East Essex Advertiser, Liverpool Daily Post, Architect, Scotsman, Builder, Northampton Mercury, Sussex Daily News, Bedford Standard, Sussex Express, Sheffield Telegraph, Portsmouth Times, Brighton Gazette, Leicester Post, The Universe, Bristol Mercury, Derbyshire Times, Hereford Times, Worcester Herald, Dundee Courier, Leeds Mercury, Cambs Times, Kidderminster Times, Weekly Echo, Devon Gazette, Yorkshire Post, Sanitary Record, Lincolnshire Echo, Eastern Post and City Chronicle, City Press, Hertfordshire Mercury, Weekly Free Press and Aberdeen Herald, Reading Mercury, Mining Journal, Local Government Chronicle, Surrey Advertiser, Public Health, Engineer, Local Government Journal, Bath Herald, Bath Chronicle, Cape Argus, Craven Herald, Kentish Observer, Daylight, Wigan Examiner, Thanet Guardian, Cable, Le Temps (Paris), Eastern Post and City Chronicle, West Middlesex Herald, Denbighshire Free Press, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Messrs. Adlard and Son, Lond.; A. B. C., Lond.; Royal Albert Edward Infirmary, Wigan, Secretary of; Apollinaris Co.

B.—Dr. F. E. Beddard, Lond.; Mr. E. H. Blomfield, Calais; Sir W. H. Broadbent, Lond.; Mr. A. E. Broster, Wirksworth; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. Banks and Co., Bolton; Dr. Beverley, Norwich; Dr. A. Byers, Eccles; Brisbane, Registrar-General of; Mr. F. Brodie, Notts; T. B. Browne, Ltd., Lond.; Mrs. E. A. Blackmore, Lond.; Bridgwater Infirmary, Secretary of; Mr. C. A. G. Browne, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; Bona fide, Lond.; Messrs. W. H. Bailey and Son, Lond; Mr. C. Birchall, Liverpool; Messrs. Burge, Warren, & Ridgley, Lond.; Messrs. Baker and Co., Boxford; Messrs. W. Byles and Sons, Bradford; Messrs. Bates, Hendy, and Co., Lond.; Mr. H. V. Brereton, Bilston.

C.—Mr. J. G. Creasy, Wrotham; Messrs. E. Cook and Co., Lond.; Chester General Infirmary, Secretary of; *Charlotte Medical Journal*, Charlotte, N. C., U.S.A.; Chicago Medical Society, President of; Dr. Cheatle, Oxon.; Dr. J. Craig, Dublin; Dr. B. Crozier, Lond.; Dr. A. T. Cabot, Boston; *Clinical Review*, Chicago, Editor of; County Asylum, Shrewsbury, Superintendent of.

D.—Mr. A. H. G. Doran, Lond.; Dr. S. B. De Butts; Messrs. S. Deacon and Co., Lond; Devonshire Hospital and Buxton Bath Charity, Buxton, Secretary of; Devon and Exeter Hospital, Exeter, Secretary of; Messrs. W. G. Dunn and Co., Croydon; Surgeon-Lt.-Col. S. L. Dobie, Dunaln Park; Durham County Asylum, Winterton, Clerk of.

E.—Mr. J. Eastwick, Lond.; Etudiant, Lond.

F.—Mr. C. A. Francois, *r.s. Sir John*, Cape Town; Messrs. J. F. Farwig and Co., Lond.; Mons. H. Falcon, Valence, France; Messrs. Fassett and Johnson, Lond.; Dr. N. Hay Forbes, Tunbridge Wells; Mr. A. G. R. Foulerton, Sutton; Dr. J. C. Fergusson, Great Malvern; Falcna Food and Cereal Co., Lond.; Messrs. Fairbairn and Sons, Edinburgh.

G.—Mr. E. B. Goulden, Canterbury; Mr. S. Gourlay, Musselborough; Mr. G. G. Gidley, Cullompton; Gateshead Union, Clerk of; Dr. C. D. Green, Edmonton; Dr. L. G. Guthrie, Lond.; Mr. S. Gowan, Manchester; General Press Cutting Association, Lond.; Dr. G. A. Gibson, Edinburgh; Dr. L. G. Glover, Lond.; Dr. L. Grant, Edinburgh; Dr. R. J. Godlee, Lond.; Glasgow Royal Infirmary, Secretary of.

H.—Mr. F. Hobday, Lond.; Dr G. Halley, Dundee; Hastings Urban Sanitary Authority, Clerk of; Hospital-Trained Male Nurses' Association, Lond., Superintendent of; A. L. Hammel Advertising Agence, New York, U.S.A.; Dr. W. H. Hewlett, Wivenhoe; Mr J. W. Hayward, Whitstable; Mr. J. Heywood, Manchester.

I.—Incorporated Medical Practitioners' Association, Lond., Secretary of.

J.—Dr. G. S Jackson, Alnwick; Dr. J. H. Joyce, Canterbury; *Journal de Médecine*, Bordeaux, Editor of; Mr. D. H. Jack, Glasgow.

K.—Surgeon R. A. Kirby, H.M.S. *Victory* Depot, Portsmouth; Mr. G. P. Kling, Lond.; King's College, Lond., Secretary of; Messrs. J. B. Keene and Co., Bath; K. L. S., East Grinstead.

L.—Dr. A. H. Laver, Sheffield; Dr. J. F. Little, Lond.; Messrs. Loveitt and Bones, Coventry; Lighthorn Joint Hospital Committee, Glasgow, Secretary of; Lithanode Electric Storage Co., Lond., Managing Director of; Leslie, Lond.

M.—Mr. W. L. G. Morgan, Bournemouth; Messrs. J. and C. Most, Stafford; Messrs. C. Mitchell and Co., Lond.; Marlow Incandescent Fittings Co., Lond.; Maltine Manufacturing Co., Lond.; Malto, Ltd., Lond.; Manchester Clerical, Medical, and Scholastic Association, Secretary of; Medical Society of Victoria, Melbourne, Hon. Secretary of; Mr. J. H. Morgan, Lond.; Medical Service Committee, Lond., Hon. Secretary of; Messrs. Meyer and Meltzer, Lond.; Mr F.H. Madden, Lond.; Mr. A S. McSorby, Liverpool; Mr. A. S. Morton, Lond.; Mr. J. MacKenzie, Kirkby-in-Ashfield.

N.—Messrs. Newton, Chambers, and Co., Lond.; North Staffordshire Infirmary, Hartshill, Secretary of; National Hospital for Diseases of the Heart, &c., Lond., Secretary of.

O.—Mr. F. Orchard, Lond.

P.—Mr. A. G. Parrott, Leominster; Mr. E. Page, Lond; Mr. P. Pope, Lond.; Mr. F. Piggott, Cambridge; Dr P. H. Pye Smith, Lond.; Mr. J. C. Padwick, Shrewsbury.

R.—Dr. E. A. Roberts, Lond; Royal Isle of Wight Infirmary, Ryde, Secretary of; Sir W. Roberts, Lond.; Royal Victoria Hospital, Bournemouth, Secretary of; Royal Portsmouth Hospital, Secretary of; Messrs. Rebbeck Bros., Bournemouth; Dr. S. Rideal, Lond; Messrs. Reynolds and Branson, Leeds; Messrs. Robertson and Scott, Edinburgh.

S.—Mr. H. W. Scriven, Lond; Dr. P. B. Smith, Horsham; Sanitas Co., Lond., Secretary of; Messrs. Street and Co., Lond.; St. John's Hospital for Diseases of the Skin, Lond., Secretary of; Messrs. J. P. Segg and Co., Lond.; Dr. F. J. Smith, Lond.; Dr. Seaton, Surrey; Dr. A. E. Sansom, Lond.; St. Paul's Co., Lond.; Suburb, Lond; Mr. R. Smith, Lond.; Dr. F. F. Schacht, Lond; Messrs. Southall Bros. and Barclay, Lond.; Sub-Committee on Army Medical Reform, Lond., Chairman of; Mr. A. Saxlehner, Lond.

T.—Dr. J. J. Tate, South Molton.

V.—Dr. L. Vintras, Lond.; Dr. Des Vœux, Lond.

W.—Mr. W. C. Ward, Chichester; Warneford Asylum, Oxford, Secretary of; Mr. W. Whiteley, Lond.; Mr. J. H. Wigham, Leeds; Mr. C. Wilson, Lond.; Miss A. Wicke, Lond.

Y.—Dr. S. Yeoman, Prestwich; Dr. W. M. Young, Lond.; *Yorkshire Post*, Leeds.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Armbrecht, Nelson, and Co., Lond.; Assistant, Lond.; A. B., Lond.; Dr. Althaus, Lond.; Mr. G. R. Anderson, Southport; Mr. S. E. Atkins, Axminster.

B.—Mr. W. Bowes, Aldington; Mr. L. Browne, Lond.; Dr. M. Beattie, Gotham; Dr. J. Burns, Moffat; Dr. H. S. Branfoot, Brighton; Mr. J. H. Booth, Chesterfield; *Berliner Wissenschaftliche Correspondenz*, Berlin; Beta, Lond.; Bovril, Lond; Dr. H. P. D'A. Benson, Guernsey; Mr. R. Baker, Lond; Mr. W. S. Battess, Dorking; Brighton and Hove Throat, &c., Hospital, Secretary of; Mr. L. M. Buckell, Romsey; Dr. S. W. Bond, Godalming; Mr. L. C. Bean, Salisbury; Mr. H. R. H. Bigg, Lond.; Borax, Lond.; Bleeps, Lond.

C.—Mr. J. Carter, Lond.; Mr. J. W. Cuthbertson, Hulme; College of Preceptors, Lond., Secretary of; Dr. J. Clarke, Ballyjamesduff; Dr. F. G. Crooksbank, Lond.; Clavicle, Lond.; Cortland Wagon Co., Lond.; Dr. H. Campbell, Lond.; Messrs. A. Cohen and Co., Lond.

D.—Messrs. Dowie and Marshall, Lond; D., Lond.; Duffryn, Lond.; Delta, Lond.; Dr. W. Dale, Truro; Digit, Lond.; Mr. J. Drummond, Tillicoultry; Dr. J. Davies, Lond.

E.—Elberfeld Farben Fabriken Co., Lond.; Enamel, Lond.; Eversfield Mansions, St. Leonards-on-Sea; E. T. S., Lond; Mr. W. G. Evans, New Quay.

F.—Mr. P. V. Fry, Farnworth; Fellows Manufacturing Co., Lond.

G.—Mr. E. H. Griffiths, Lampeter; Dr. F. Groedel, Bad Nauheim; Messrs. Geofrey and Cooke, Lond; Guarantee, Lond.; Mr. J. H. Goldwin, Rochester; Dr. G. P. Gallie, Lond.; Goswell-road, 329 Lond.; Galen, Lond.

H.—Dr. W. Herron, Dromore; Home, Lond.; High Shot House, Twickenham, Medical Superintendent of; Dr. L. N. Harding, Brighton; Dr. S. Hyde, Buxton; H. M., Lond; Mrs. Hoddinott, Evesham; Harvard Co., Lond.

I.—International News Co., Lond.

J.—Mr. R. Jones, Flint.

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